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ABSTRACT

In Latin American education systems the inspectorate is an administrative level linking the central national educational administration to the local operations level. Traditionally the inspector's function has been to enforce fulfillment of pedagogical and administrative norms at the local level and to transmit pertinent information on achievement to higher authorities. In more recent times this role has grown to include overseeing the implementation of innovations. This history (as exemplified in Costa Rica), along with borrowings from administrative theory, was used to develop an analytical model of the inspector's role based on the systems approach as it is applied in the field of social cybernetics. This model in turn was used to develop hypotheses about the inspector's role in periods of rapid educational reform. A questionnaire survey of 25 percent of Costa Rica's inspectors provided data permitting the drawing of conclusions concerning 17 hypotheses relating to the implementation of several specific reforms in Costa Rica in the 1970's, and these conclusions provided information regarding the impact of reforms and the inspectorate subsystem on each other. This shortened version of a more detailed report pays particular attention to the development of a research model applicable to this previously little-examined field. (PGD)

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THE ROLE OF THE SCHOOL INSPECTORATE IN PLAN IMPLEMENTATION: A SYSTEMIC APPROACH (based on experiences in Costa Rica)

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IIEP research report: (51)

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PREFACE

This document is a summarised version of the final report on research carried out over the period 1979-1981 by Dr. C.E. Olivera, IIEP Consultant, on the rôle of inspectors in the implementation of development plans and programmes which occurred in Costa Rica during the 1970s. This study, the original Spanish version[1/] of which is being published elsewhere follows up the author's previous work on general problems of educational administration in Latin America.[2/] Though it focuses on the specific experience of one Central American country, i.e. Costa Rica, it does so by establishing first a theoretical foundation for an analytical model based on the systems approach. This should prove of general interest for students and practitioners of educational planning and administration in developing countries.

The IIEP, in consultation with the author, prepared this synthesis in English, Chapters II, III and the Conclusions were retained in toto from the original, while the other chapters have been combined and summarised.

It should be noted that in parallel with this work, the Institute co-operated with a research team of the Ministry of Education, Nepal, on another study of the rôle of school inspectorates in improving the teaching/learning process.[3/]

Sylvain Lourié
Director, IIEP

1/ OLIVERA Carlos E., El papel de los supervisores en los procesos de reforma de la educación: el case de Costa Rica, Paris, IIPE, 1982 Mimeo, 213 p. (Doc. IIEP/RP.23/19)

2/ OLIVERA Carlos E. The administration of educational development in Latin America, Paris, IIEP, Research Report No.34, 1979, 151 p.

3/ WHEELER, A.C.R. et al. The rôle of supervision in improving the teaching learning process in Nepal, Paris, IIEP Research Report No.38, 1980, 121 p.

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INTRODUCTION

Experience of the last twenty years has shown repeatedly that administration has been a decisive factor in the success or (more frequently) the failure of educational development plans. It is an example of the gap between expressed intentions and the reality of the educational world, and may explain why the inspectorate subsystem has at last begun to attract attention, forming as it does the link between policy and schools.

In the Latin American context of highly centralised systems, the inspectorate is composed of those educational staff at the intermediate levels whose principal duty consists of supervising headmasters and teachers in a certain number of schools; their fundamental role in the school system is to maintain contact between the teaching establishments and the higher authorities - the cement which holds the system together. Hence the inspector has to supervise the performance of each headmaster and classroom teacher as well as the achievements of each group of pupils, more to keep them in line with general standards than to help them achieve even better results - at least this was the original idea on which the Latin American education systems were organised a century ago. Present-day uncertainties and difficulties stem from the introduction of different concepts from decentralised systems (i.e. the U.S.A.) which clash with Latin American traditional patterns of organisation. Ignorance of these differences has led to errors of interpretation by foreign researchers, or vice versa, when bibliographic material from abroad is used by Latin American educationalists. This study concerns the Latin American case, in particular the Costa Rican system, its evolution and the role expected of inspectors in the implementation of educational reforms.

The intention here is to apply an integrated systemic approach. Educational planning is conceived not as a combination of methodologies and technologies but as an open systemic process, continuously self-correcting through feedback and in which new internal and external factors to the educational system constantly appear. The inspectorate subsystem, though limited to the group of staff defined above, should equally be seen as an open process and not a fixed structure - a process through which the changes decided upon in a particular stage of the planning process can be integrated in the more general process of educational development. All this has to be seen within the complex

structure of Costa Rican society which is itself influenced by world-wide trends.

Neither should the role of inspectors in the process of educational change be analysed in one direction only - from them to the base of the system - since any action induces changes in inspection itself. It is almost impossible to evaluate the performance of inspectors except through change produced in themselves by their involvement in the total process. On the other hand, it is not intended here to evaluate the role of the inspector on the basis of some supposed ideal of perfect adaptation of the inspectorate subsystem to the planning organization or to the educational system as a whole since progress and development are only achieved by disequilibria and conflict. The most important thing is that the latter should be made use of as continuous feedback for redirection of the inspectorate and the system as a whole. Thus it is proposed to begin with a short description of the historical context of school inspection in Costa Rica, in order to identify more or less permanent components of the desired theoretical framework. The relativity of the historical context will be kept in mind throughout this study.

Historical context

It is obvious that whatever reform is introduced, it cannot be expected that inspectors will carry out their work without reference to the "normal context" which has been evolved by the past. This is crystallised in legislation, regulations, administrative procedures, etc. Costa Rica's national history has shown a notable continuity, with an absence of the violent ruptures suffered by sister Latin American countries, so that practically none of the old traditions have been lost.

In broad terms the evolution of the school inspectorate in Costa Rica can be divided into phases[1/] as in Chart 1 which follows. This shows first a century of continuous change (1821-1923) during which the inspectorate slowly acquired a definite structure - a critical point occurring in 1886 when the Education Law centralised the system. Then came a period of stabilisation and slow growth (1923-1953) followed by a period, 1953-1980, when the inspectorate repeatedly tried to change its structures according to new understandings of their role. These three phases may be identified with successive

1/ The reader is reminded that considerably more detail of the evolution of the inspectorate is given in the original Spanish version of this study.

centres of interest of educational policy, i.e. government and administration, pedagogy and the social role of education.

Characteristics of the Inspectorate

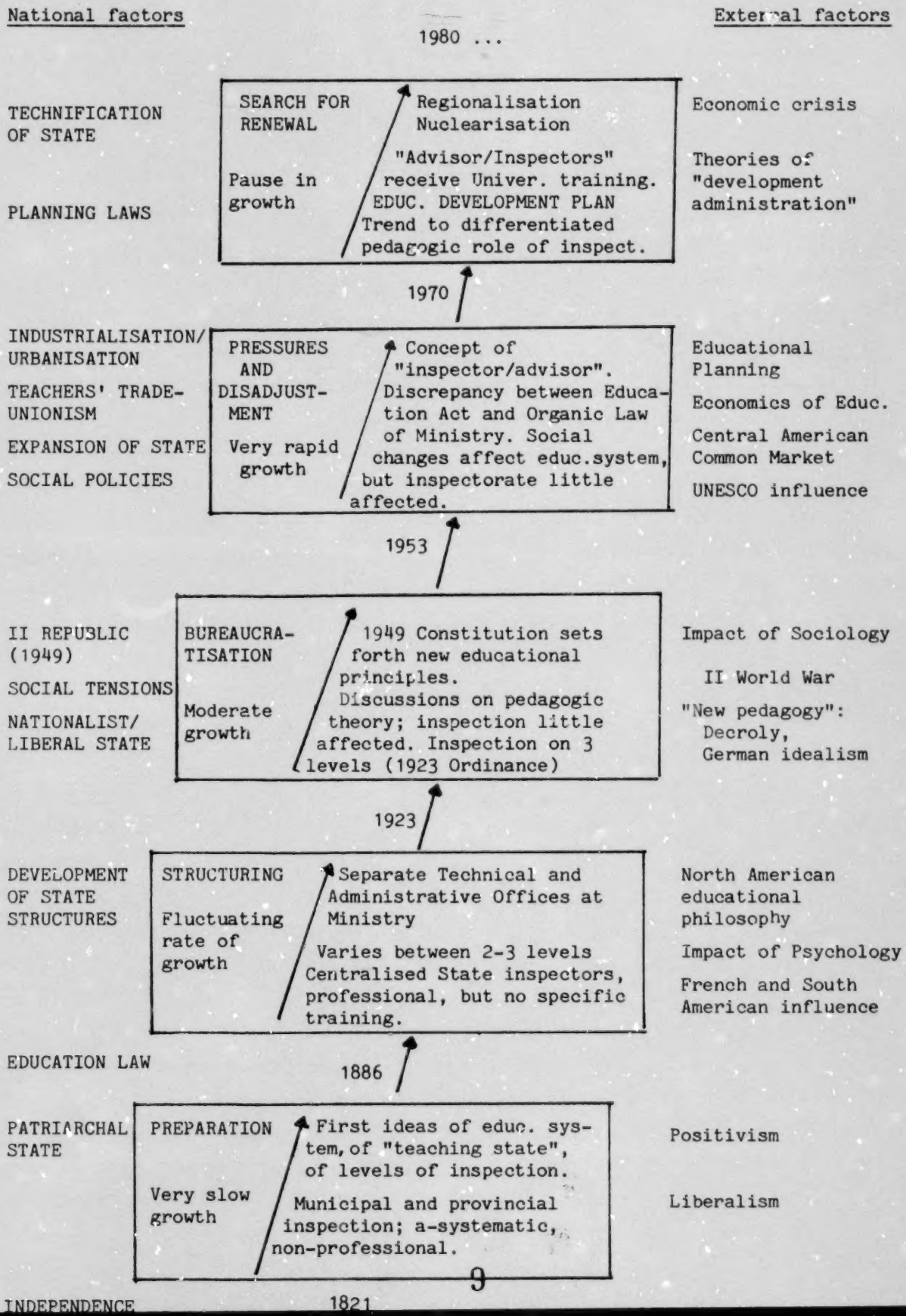
From a detailed examination of the evolution of the Costa Rican inspectorate, it was found that the major characteristics underlying the historical process, which will condition any process of planned change, can be identified as:

a) The heart of the inspector's work, his structural rôle, consists of serving as an administrative link, to transmit the impulses emanating from central power to operative levels. The aim is to enforce fulfilment of pedagogic and administrative norms, to which work any counselling or assistance activities are subordinate. Complementarily, the inspectorate has to transmit to higher authorities all pertinent information on actual achievements, to which promotion of initiatives or suggestions are subordinate.

b) During the second phase (as described in Chart 1) and as a means to carry out the above aim (which was not achieved in the first phase), inspectorate functions were placed in a highly centralised structure: intermediate levels (inspectors, provincial, regional and subregional administrators) had no decision-making power in anything substantial but were limited to carrying out the same functions - in the field of administration - that circuit inspectors carried out in regard to heads and teachers.

c) However, an ever increasing insistence on the pedagogic function of the inspectorate, (the training and counselling by inspectors of school personnel) became apparent in educational laws and regulations. As from the second phase (1906) this theoretical orientation took on a concrete form by the division of the Inspectorate General into Technical and Administrative Offices. As from that time, a certain imprecision or duality of lines of authority was established. In the field, however, inspectors were not subdivided, but there was always a certain imbalance between technical-pedagogic directives and the compulsory administrative decisions. In the final phase analysed, while departments of the former type were strengthened, on the other hand the position of inspectors in the administrative chain was also reinforced and the latter dominates in cases of doubt. Technical-pedagogic dispositions themselves are channelled and carried out via administrative routes and are subject to administrative criteria.

Chart 1. HISTORICAL CYCLES OF SCHOOL INSPECTION IN COSTA RICA



d) Another characteristic present throughout all this period was the weakness - in the beginning the total absence - of professional training of inspectors: the only requirement was that they be teachers with a certain experience. Teachers became inspectors generally after having held headships in one or more schools, after having given some proof of capacity to command, and received instructions during a brief induction period on administrative procedures only - a pedagogical refresher course was not considered necessary. Experience, although it might really only be "seniority" appeared to cover ever need. There was no specific preparation to assume the roles of advisor and promoter of change - hence resistance to each programme change, not to mention major reforms.

e) The duality of functions and the character of representative of the whole Ministry of Education, became increasingly complex. This is the root of a further characteristic - multiplicity of functions of inspectors. Originally functions were manifold since work touched on all the aspects of the system as reflected in the school. Later, new pedagogical trends encouraged and obliged the Ministry to take account of more facets of the educational world, to set up new offices to deal with them and initiate new programmes to put them into practice. In the field, all this work fell on one inspector who, of course, had neither the staff nor specific offices for them. Sometimes this was perceived, and administrative offices set up at intermediate levels momentarily alleviated the situation, but shortly afterwards further ministerial initiatives brought new complications. The only element which has really lessened the administrative load of the inspector is a curtailment of his former powers to make appointments, transfers, promotions and impose sanctions, but in another sense this itself brings complications because these arrangements take longer and are more indecisive.

f) Lastly, a very obvious characteristic is insufficiency of material means of action: buildings, equipment, transport, telecommunications, budget for minor expenses. All these have increased with time, but always by less than the increasing needs. The most serious aspect is perhaps isolation. Difficulty of communication increases the danger of distortion in transmission of messages in both directions.

While experiencing all these difficulties, change has painfully come about, generally with much delay. This is the explanation for what has been noted in the evolution of the inspectorate; that despite an extraordinary

number of new factors, external and internal to the educational system, there has been little real change in the inspectorate subsystem. The above characteristics should be kept in mind if an objective evaluation of the role of inspectors in reform situations is to be made.

I. THE THEORETICAL PROBLEMS

Objective study of the role played by inspectors in an educational system undergoing reform immediately comes up against a serious theoretical difficulty which may be formulated by the following question: what analytical model and what parameters of performance should be applied to ensure that the study is as objective as possible? In simpler terms: what aspects of the inspector's behaviour should be studied? How should inspectors function in each of these aspects so that the difference between what they should do, and what they actually do, can be determined.

An ordered series of variables, indicators and parameters (or standards) cannot be validly obtained by deductive thinking on the basis of a given conception of the unchangeable "nature" of things; the latter is conditioned by the history which formed it. Such a series may be arrived at by means of a kind of balance between concepts and "ideal types" on the one hand, and verifications carried out at certain points in time on the other. It may be true that reality over time is perceived by means of conceptual representations but it is also the case that the latter are corrected when tested against relevant realities. In fact, historically many factors have played a role - from world trends in science, pedagogy and politics down to minor local interests - and in one form or another are still influencing norms, attitudes and actual behaviour.

The inspectorate system in Costa Rica did not arise as an original and independent creation whose development has, by chance, coincided with Latin American or universal tendencies and practices, but had its sources in what already existed in other places and in the prevailing "doctrines" of that time. These were embodied in legislation and pedagogic and administrative practices (which are much more enduring than intellectual trends and fashions) and are still in force in various degrees though couched in apparently very different vocabulary.

The present study will therefore be based on data from concrete reality i.e., both the history of the past century and a half, and the situation at the provisional point of entry of the study (1970). Upon this will be constructed a model of analysis of the school inspectorate subsystem which will subsequently be applied to the behaviour of the subsystem during the following period of reforms.

In response to the questions posed above, two options seem open in order to guide the search for a model. The first would consist of adhering strictly to an examination of inspectors' behaviour as compared to the formal expectations of the system: in other words, to the "role of inspection" as described by legislation and regulations, and determined by the very structure of the school system at that time. Under this approach it would suffice to give more consistency to the framework of functions, responsibilities and duties already identified, and to itemize it more fully.

But this type of "discrepancy analysis", at first sight the most obvious, presents certain dangers which would considerably reduce the interest of this work. In effect, these formal, explicit role expectations can be misleading or insufficient. Misleading, due to the fact that the complex role of the inspector may contain intrinsic contradictions, or make specific demands that are not consistent with declared principles or objectives (as is believed to happen). Insufficient because both the historically conditioned inspectorate subsystem and the nature of education itself for whose benefit it was constructed, in themselves make, as far as the role of the inspector is concerned, certain demands that go beyond what is consciously perceived by the authors of laws and regulations, but which must be included in any analysis. In both cases there is the risk that conclusions would be limited in scope, too closely linked to the circumstances of a specific case and thus have little interest for the principal proposition of the study, i.e. that the case of Costa Rica is to a certain degree an illustration of situations commonly found in Latin America, so that the lessons drawn have some value for further specific studies.

The other method would consist, of course, in the drawing up of an "a priori" model, based on certain universally defined principles of the inspectorate function, whether in general or in the framework of formal education. However, it would still be necessary to define what disciplinary approach should be used for the drawing up of the master lines of the model, because, for example, an approach based on any of the current theories of administration would without doubt overlook certain intrinsic elements essential in the case of the school inspectorate or reduce them to a subordinate role which would distort the whole perspective. Or, to give another example, an approach strictly centred on the school inspectorate itself in its most modern concept (as was done by another well publicised

work on this continent)[1/] would locate the study in an unreal world, where human failings, subordination to administration and need for control do not exist. Thus this method was rejected from the very beginning. Therefore, a third way will be attempted, without doubt more difficult but finally, it is to be hoped, more fruitful, that is to try to elaborate a model of analysis based firstly on the confrontation of formal expectations and daily realities, setting both in a broader and deeper global framework - not an "ideal" framework extracted from some unilateral doctrine but one constructed by reflecting on real existing elements. This type of work has not yet been attempted by any other author: it is a venture into a field where false steps are inevitable but which it is necessary to explore.[2/]

Given this absence of a generally acceptable or at least coherently explained theoretical basis, it is proposed in this chapter to proceed by successive approaches which will be sufficiently explicit to show the progress of thinking towards the model but without going into such detail as to lose sight of the whole. First of all the initial ambiguity of the role of the school inspector will be studied, together with its consequences up to the present time. Then elements for the model, borrowed from the principal modern theories of administration will be identified. In this way, the path will be cleared for the construction of an analytical model based on the systems approach as it is understood in Social Cybernetics.

1. Initial ambiguity and its consequences

A first approach to the model will be, not a set of definitions and principles (which will no doubt have to be formulated later) but an analysis

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[1/] Nérici I.G. Introducción a la Supervision Escolar (Introduction to School Inspection) Buenos Aires, Kapelusz, 1975. This author based his work essentially on Neagley and Evans and other North American authors, and refers to an "ideal" inspectorate - one where Ministries, hierarchical lines of command, administrative regulations and finance and equipment problems do not exist. It is not possible to extract from this any framework for analysis of real situations.

[2/] For example, in such an important work as that by Anne Basile Annotated bibliography on practices and research in educational administration and management (Paris, Unesco 1979) covering 330 recent titles, only 7 deal more or less directly with the school inspectorate, 5 are studies in the United States (dated between 1957-64), one describes the situation in Canada and only one was published by Unesco (E. Miklos) but refers to the training of administrators and inspectors within existing structures which are not criticised. It omits, on the other hand, recent works by R. Lyons who began to explore the subject, though without any deep study of the theoretical problems.

of what happened in the civilisation of which Costa Rica formed a small part at the time the school system was founded in the 1880s. The origin of the fundamental ambiguities which continue to affect the role of the school inspector will be found there.

It is impossible to overlook the fact that "universal" elementary school systems were established at a time when "progress", based on the indisputable success of the European and North American industrial revolution, held sway. The primary school system, viewed from this angle, was the application of "mass production" concepts to an activity which had always been - notwithstanding the diffusion of printing - highly selective. It was very natural that the organization developed in industry was used for the school system, although the resemblance was not entirely consciously aimed at.

The system was based on considering pupils (at least the common people who had to be enrolled in schools) as objects to be moulded in accordance with determined production norms, as is shown by certain metaphors then in vogue.[1/] These norms, determined by higher authorities, were learnt by the operator (teacher) in schools. The role of the inspector consisted naturally of guaranteeing to the authorities that the norms were being faithfully followed by the operators. The sole important difference was that in the case of education, "workshops" were scattered all over the country, instead of being concentrated at a single point. For this reason, inspectors, freer and less controlled than heads of factories as regards movement and employment of time, always enjoyed a relatively higher social status.

When at the beginning of the 20th century, the impressive development of modern organizations began to be scientifically studied (Taylor, Fayol, Max Weber ...), those of an industrial character were chosen first. From here study broadened in scope to encompass other forms of administration, "white collar" organizations and finally the educational system. It would be possible to trace the transposition of the initial concept of the inspectorate arising from industrial inspection to educational legislation and regulations. This concept, based on a fallacious resemblance, is the more dangerous when not explicitly recognised - a careful look between the lines would show it to be there. Surreptitiously it continues to permeate the structures of the educational system and to dictate the main items of the

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1/ A collection of these metaphors is commented upon with humour in the work of N. Postman and Ch. Weingartner Teaching as a Subversive Activity, New York, Delta Books 1967 Ch. VI.

regulations on the duties and responsibilities of inspectors[1/]. It is therefore necessary to pause a moment to show why the school inspectorate cannot be defined or evaluated according to the same criteria used for industrial inspection nor for administrative inspection in general.

In the first place, the nature of the operations to be supervised is completely different. In industry, the final product is the result of many successive operations, each one of which is confided to differently qualified groups of workers who have received different, more or less specialised, training. On the other hand, in education, each teacher and each school should do essentially the same thing. Of course, the "content" of each class is different but in order to develop a certain subject matter, the teacher has to know all the rest of the curriculum and in due course also has to be able to deal with it. More to the point, his essential task does not lie in "teaching" a particular subject but in "educating" by this and all other subjects. The final product, if it may be called such, is not obtained by an accumulation of tasks carried out externally to the object (the student) which converts it into a "product" (the graduate) but by an internal process of maturation in the subject of the process: a process stimulated and guided by the overall function of the teacher more than by its "contents". Without going into deeper and more disturbing considerations, such as those set out by Postman and Weingartner in the work mentioned above, it is enough to state that very different curricula can produce approximately the same level of education. That is why all teachers receive the same training (entirely in the case of primary education and partially for other levels and streams).

In the second place, the nature of inspection work is also very different in industry to that in the school system. In the former case, the inspector is specialised according to the operations: supervisors (heads of workshops, etc.) are not interchangeable except within the same general area and normally come from the ranks of the same workshop. In effect, each inspector is responsible for the control of an operation, a particular task or step in production but never for the total process, so that he does not have to know all about it.

In the school system, on the other hand, and particularly at basic levels, the inspector must supervise the whole process of education and therefore

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1/ See for example the texts of the only two Recommendations (Nos. 10 and 42) for the school inspectorate /made by the 1970 Unesco Annual Conference on Public Education (Geneva, IBE)/ out of a total of 65 drawn up over 35 years.

the total organization of the "units" which carry out the work. Such units, at least those known as schools, are basically similar and not differentiated like workshops in a factory: for this reason inspectors are interchangeable from one district and circuit to another and normally do not come from the same district as that where they carry out their functions. They should be specialised in inspection as such and not in a particular educational task.

An ambiguity: government watchdog and advisor

If time is devoted to consideration of this seemingly too obvious question, it is because such distinctions have not been made explicit and confusion still prevails between these two types of inspection. It would perhaps not be very important if it were simply a case of keeping school systems within unchanging canons, but this becomes a decisive factor when the purpose is to develop (and not simply enlarge) school systems in a planned way.

In fact, initially inspectors were appointed as a kind of local representative of the central power, responsible for transmitting orders and seeing that they were carried out. It was, in accordance with the industrial concept, a top-down action destined to ensure the uniformity of all schools as regards organisation, programmes and methodologies. In the Costa Rican Law of 1886, the primary duty of the inspector is "to supervise proper execution of dispositions laid down for primary education" for which he should "take care that teachers adhere strictly to the methods, texts and programmes approved by the government" (Art. 31, clauses 1-10). The 1907 Regulations remind them that they "are delegates of the Government, responsible for watching over primary schools" (Art.9) wording which was reproduced in the 1923 Regulations. Much later, in 1968, the Inspection Manual published by the Ministry continues to record that "inspectors constitute a special corps responsible for the observance of current laws and regulations in all schools ..." (p.6).

The boast of the French Minister of Education (it was France which was the model for the Latin American system) is well-known - looking at his watch he declared proudly to his visitors "At this moment, all children in the third grade in France are studying a particular point in arithmetic". And he could be certain of this because there were inspectors to ensure it and to sanction any deviation. In a school system conceived as a mass

production organization responsible for transmitting codified knowledge, the inspectorate logically had the task of guaranteeing the uniformity of the "product" by ensuring that all rules were strictly observed and not by promoting creativity.

However, no sooner was the system established in accordance with such concepts and embodied in laws and regulations, than the advent of modern psychology and pedagogy began to make an impact. The latter interpreted the school system as a systematic endeavour to help each subject to achieve his individual potential in order to fit into active working life. Naturally, this created a need for people to transmit these new orientations to each particular school and teacher: it was necessary to have counsellors ("consejeros") (later there was the more technical concept of advisor ("asesor") capable of interpreting directives and results both from and to the top management, taking into account the global complexity of the real educational process as carried out in each school and classroom. The old type inspectors had to fulfil this new mission. Thus several phrases, noticeably absent from the 1886 law, appeared in the 1907 and 1923 Regulations: "to stimulate the teaching staff" (1907 Art 9.V) "to answer queries" and "recommend study and reference books" (id.III), to give regular lectures (1923, Art XIV,35). This is not to say that the original more primitive role of inspector-government watchdog did not include pedagogical aspects of the school (content and methods) but even in this area his actions were directed to ensuring uniformity i.e. not to guiding or counselling nor promoting initiatives, but to imposing the (only) way of teaching.

Years later when pedagogical concepts changed under the influence of psychology and sociology, the resemblance of the objectives of the work of "government watchdogs" and "counsellors" (i.e. both were occupied with the pedagogical) concealed profound differences or even radical opposition, as regards the real objective of such work: to control and to make uniform, versus to advise and encourage. As a consequence of this confusion and due to the gradual way that ideas for change filtered into the regulations, new functions were simply heaped on the shoulders of existing staff without questioning the original bases of their role. It appeared sufficient to go on adding new items to inspection regulations, without noticing their contradiction to existing rules and established institutional practice. In Costa Rica this process shows up in the vocabulary which slipped into use over the last 20 years: inspectors and visitors ("inspectores" y "visitadores") came to be supervisors, then supervisors-advisors ("supervisores-asesores").

and afterwards advisors-supervisors. In the last stage in 1980, they were upgraded to Zone Directors as one of the aspects of the new regionalisation plan (with which this study is not concerned).

Consequences for planned change

At the present time, of course, whatever the title given to these functionaries, no one would disagree - at the explicit and conscious level - with the definition given as early as 1937 at the International Conference on Education, Geneva, as to the essence of the role:

> "The mission of inspectors should principally consist of understanding and advising teachers under their responsibility, while at the same time respecting their intellectual freedom and spirit of initiative in the pedagogic field."[1/]

The problem is that the original orientation, enshrined in the texts of laws and regulations, has become an individual, professional and social habit which successive modifications of regulations have not been able to eliminate. There is nothing more difficult to give up voluntarily than habits of power ...

When it comes then to the modern approach to planned educational development, these insufficiently identified contradictions[2/] act as surreptitious but effective obstacles to real change. Plans of this type are all directed towards profound qualitative changes: those which aim at transferring some central decision-making powers to the schools themselves demand that inspectors help to change what the schools do - and this is something which goes against the grain of the inspectorate in its previous meaning. It is not intended here to refer to the way each inspector conceived his role but to what the system naturally implied. Neither is it the intention to say that previously inspectors did not attempt to change the behaviour of heads and teachers; frequently they did but only in order that the latter should conform to the inspector's views, not so that they might freely respond to the concrete needs of students on their own initiative according to the spirit rather than the letter of the regulations. Some examples of these

1/ See the collection of recommendations of these Conferences (already cited in the note at the foot of page 11).

2/ It is significant that in all the bibliographies compiled by Unesco or the IIEP on problems of educational planning, there is no study on the critical role of the inspectorate in the preparation and implementation of plans. Only R. Lyons began recently to examine this question: also specific studies of national systems made reference to it, particular those of Peru (see Bibliography)

contradictions will help to clarify this opposition between a basically traditional inspection system and the implementation of modernising plans of educational development.

To clear up any misconception, by "modernising plans of educational development" or "planned change" is meant not only programmes of expansion and investment (which although necessary are intended merely to enlarge the existing system), nor educational plans conceived as part of a national plan of economic development and thus centre on the production of "human resources" in a narrow sense, but rather in-depth change of the pedagogic system itself: changes in what is taught, learnt, evaluated and fed back, or even better in how people are educated and how the major explicit aims of education are implemented. The examples below illustrate this:

- In the majority of present educational plans, proposed changes are complex, involving many inter-dependent, mutually adjusting factors, thus demanding interdisciplinary team work in which each listens to the other and modifies his position until a sufficient consensus is achieved. The inspection system, on the other hand, is simplistic - each inspector is faced only with the concerns of his own district, invested with official authority and unaccustomed to discussing opinions; nor is he usually given opportunities for intellectual exchange on an equal footing.

- At least in the last decade, most educational plans emphasized promotion of community participation, including not only traditional ways of "cooperating" with the school but also concrete intervention of the community in determining what should be taught and how. The inspector, however, is accustomed first to preserving the school as a "pedagogic sanctuary", where only teachers have the right to intervene and only the inspector the right to make changes and to conduct community relations in a paternalistic way so as to "explain" to the community what the school is doing, but never to question its activities before "strangers" much less to accept suggestions coming from outside.

- The most advanced development plans establish only general lines for curricula, methods, materials and organization, leaving ample room for local or regional adaptations provided that these can achieve the same ends and objectives which are the basic preoccupation:

means are secondary and therefore flexible. On the other hand, the inspection system was conceived to ensure detailed uniformity of school methods, presuming that thereby the aims would automatically be achieved and executants would not need to think.

- A final contradiction that may be given (in order not to make the list too long), applies generally to the entire modern concept of inspection and specifically to situations of planned change. This is simply the manner in which the inspector plans his visits to the school so as to achieve the aims of inspection. For the inspector-"government watchdog", it is useful to arrive unannounced in order to "surprise" the school in its ordinary activities so that it cannot put on a special show. However, it is in the interests of the inspector-counsellor that he be received according to a set time-table so that teachers and heads have time to reflect on the ideas and experiences which they want to put to him; they can thus have a fruitful exchange in a relaxed atmosphere favouring communication which will lead to a common search for solutions.

Possible elements for a model

On the basis of the above examination of the existing fundamental ambiguity, what elements can be retrieved to construct an analytical model of the supervisory function in a situation of planned change?

In the initial concept of the school inspector (government watchdog) it is possible to identify several basic functional elements. In the top-down hierarchical relations, there was first the transmission of policies, regulations, orders and directives, second, verification and evaluation of compliance and thirdly, powers such as those of imposing sanctions, and making appointments and transfers. In the opposite direction, from the base towards the centre, the functional element which summarises everything is the transmission of information on what is happening in the field, be it statistical, administrative or pedagogic. Of these four elements, the first and last are the most significant for our model, being opposite sides of the same coin and representing the function of factual two-way information to know what should be done and what is in effect being done. The function of direct exercise of power is not of particular interest, since it has already almost disappeared. That of evaluation is of little interest

to us in the sense it was carried out by the inspector-"government watchdog")[1/] since it consisted of a colder and more impersonal evaluation for the purpose of uniformity.

Taking the modern concept of the inspector-advisor, the functional elements in top-down relations may be identified as: first, technical assistance or advice for the correct interpretation of directives, be they compulsory or orientating; second, encouragement and guidance for reflection on the objectives of the proposed changes and the best ways of achieving them, including adaptation and correction of general measures, and as a complement, personal advice to each teacher and head who asks for it or whose actions show it to be necessary. In the upward direction, the principal components appear to be first, thoughtful and critical information of the diagnostic-recommendation type, hence the drawing up of proposals, representation of ideas, complaints and problems of teachers, heads and the community, as their natural spokesman in these areas. All these elements are clearly of interest to our analytical model.

A descriptive study of what happens at this level of staff in a particular situation of planned change, such as that which occurred in Cost Rica, could probably be carried out using these 8 elements or components of the inspectorate function (two from the first group and six from the second group). But these variables would not suffice to penetrate the causes of actual performance, nor to suggest improvements or to make useful generalisations. It would be necessary to take other background variables into account which concern inspectors, not as staff in a specific post at a given moment, but as professionals and even as persons. Evidently these variables are much more difficult to identify and above all to delimit, and certainly much more dependent on the subjectivity of the researcher. However, it seems right to run such a risk, although such variables may be only rapidly covered and not rigorously adhered to in the rest of the work, because otherwise the final conclusions would be lacking in interest.

The author considers that underlying observable modes of the performance of inspectors in an educational reform situation, there exist at least the following professional and personal variables which condition visible outputs:

[1/] "To visit the schools with the principal aim of evaluating teachers ..." Regulation 1907 Art.10.I.

- First and obviously, professional capacity evaluated on the basis of two sub-variables: basic and further training which can to a certain degree be evaluated from qualifications and grades obtained, and the amount and variety of experience acquired during the years prior to and while carrying out the function of inspector.

- Then, (and this is to a certain degree contained in the above paragraph, but is of such importance that it should be noted separately), receptivity to the socio-economic and cultural context of the school, or more concretely, lucid consciousness of what formal education can and cannot do in a given environment, as a contribution to national and local development.

- As a necessary condition for the above feature to lead into efficient action, the possession of a global framework of reference, at the same time analytical and integrating the whole of reality, in order that the inspector may correctly relate school activities to the complex needs of society and to the actions of other development agencies and groups. This variable, it should be said, is the most difficult to measure and evaluate.

- From another viewpoint, more commonly taken into account by other authors, the capacity for good human relationships with the multiple sub-groups which comprise the world of the school - this implies giving real attention to the particular problems of individuals and groups and understanding them from other points of view.

- Lastly, the ability to keep communication channels open and fluid up to higher and down to lower levels within the inspector's jurisdiction as well as with his own colleagues, which includes the capacity to detect and overcome "cybernosis" or pathological manifestations in communication[1/].

[1/] The term "cybernosis" was coined by Waldemar de Gregori in "Social Cybernetics" Chicago, UAFA, 1980.

Provided with these two sets of elements: namely, the functional components of the inspector's role as "watchdog" and advisor, and the underlying personal and professional variables, a start can be made on the construction of an analytical model to guide the research.

2. Inspection in Management Theories

Before beginning, on these empirical bases, to draw up a new model for analysis of the school inspectorate, it would be useful, however briefly, to review what has been said in this respect by the most well-known current theories of general management. It is not proposed to summarise them all, noting their affinities and counter-views - this has already been attempted with interesting results by better writers.[1/] This study will limit itself to gleaning meaningful contributions from three successive schools which have bequeathed invaluable lessons, i.e. the "organization theories" of the first decades of this century, communication theory in its application to organization, and modern theories of decision-making.[2/]

Organization or "Scientific Management" Theories

The first studies of a scientific nature on administrative organization began with the present century with the work of F. Taylor, followed shortly afterwards by H. Fayol, and from the sociological viewpoint, by the bureaucracy theory of Max Weber - all of which have without doubt been surpassed by later work though not negated, as demonstrated by the subsequent works by such well-known authors as L. Gulick, L. Urwick and P. Drucker. Their basic principles of rational organization of collective action by means of the functional division of work and order of hierarchy continue to be, among other things, the basis for drawing organigrams - an indispensable though not sufficient instrument - to obtain an understanding of any institution of a certain size.

1/ A broad framework of such theoretical relationships, which is valuable and thought-provoking although certain details might be questioned, is that drawn up by B. Lussato in his Introduction critique à la théorie des Organisations, Paris, Dunod, 1972. The essential lines of this evolution were explained with remarkable insight by Michel Crozier in Le Phénomène Bureaucratique, Paris, Ed. du Seuil, 1963, 1963 pp.176-185.

2/ Human relations theory is not included because its approach scorned the type of organizational problems being dealt with here. This is not to say that this school has not bequeathed very valid lessons for other aims, particularly in the interpretation of Kurt Lewin.

The common analytical element among the variants of this school is the distinction of functions by hierarchy and speciality. The two extremes of the hierarchy are clearly identified: upper management for global direction and coordination of all functions, and operators at the base (individuals or groups) responsible for specialised and concrete tasks. Between these two levels, there is a need for one or more intermediate steps variously organised, in which general functions become "departmentalised" by successive sub-divisions in accordance with the institution and the complexity of its activities. In this concept, inspectors fall into middle management, differentiated as a group by being responsible only for supervision and not for carrying out other substantial tasks of the organization.

But this too simple and "rational" analytical scheme is not entirely satisfactory when applied to the school inspectorate in either of its two fundamental varieties. Vertically division into three basic levels - management, administration in the largest sense and execution - encompasses too many different functions at the intermediate level when it concerns a Ministry of Education. Horizontally, division by functional departments is meaningful only at the central offices of the Ministry and perhaps partly in regional offices, but not between inspectors who are all responsible for the same function differentiated only by territory.

Therefore for our purpose - i.e. the placing of inspectors in an organizational scheme - it is necessary to have at least a better characterisation of the vertical structure to make the general idea of organization theories more precise in this respect. The concept of four "levels of action" taken from Social Cybernetics[1/] will be used for this, since it gives clarity to the number of intermediate levels which up to now have been somewhat confusing. This scheme respects the classical distinction of the two extremes of any organization: the central management or policy-thinking[1/] level, where the philosophy, policy, strategies and basic decision-making of the organized group are carried on. At the other extreme -execution level - are those who carry out the specific activities of the organization following detailed

1/ See Waldemar de Gregori, op. cit. The fundamental elements of this theory are explained in simple terms in some of the ICSAP publications (Instituto de Cibernética Social Aplicada a la Planificacion, San José, Costa Rica), particularly in the workbooks of its courses and in the booklet "La dinamica subgrupal en las instituciones" (Series et/11) (Sub-group dynamics in institutions).

2/ In Spanish "mentalización"

instructions. In the case of the educational system of Costa Rica as it existed in 1970, the "policy-thinking" level was comprised of the Higher Council, the Minister and Vice-Minister, Administrator General, "Official Mayor"[1/] and Inspector General, i.e. of those "unique" posts which have no equivalents and which constitute a sort of "general staff". The execution level is comprised of heads, teachers and other school personnel, i.e. those in direct contact with the "subjects" of education.

The novelty of the scheme is to be found in the intermediate zone where a further two levels may be identified: that of the consultancy or "Advisory Service" comprising officials who are instructed in the policy and other elements defined by the higher level (because, among other things, they themselves helped define them) and are thus capable of orienting and directing others in broad areas of institutional activity. This level includes not only conventional "advisors" (or staff) situated on the margin of the chain of command but also senior executives of large offices and departments. In fact, the sharp distinction between these groups usually shown in organigrams does not correspond to the real organizational processes, since "advisors" often participate to a great extent in executive decision-making and the heads or directors at this level make a decisive contribution to the development of institutional thinking. The other level is that of "animation", formed of those who, under the direction of advisors (as previously defined) are responsible for organizing, promoting and supervising specific activities of implementation. In Costa Rica, the advisory level comprises general and departmental directors, central inspectors by level and branch, and regional administrators. The "animation" level is that of regional and district inspectors (see Diagram 1).

This concept, in addition to progress made by the functional identification of two intermediate levels, presents at least two other advantages in the form of two closer approaches to reality. On the one hand, it embraces two types of horizontal subdivision (by specialised function and by geographical area): in classical organigrams this is more difficult to achieve since geographically deconcentrated posts are placed under minor central offices although district inspectors, for example, have in fact a higher rank than the staff of such offices. On the other hand, it overcomes

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[1/] Overall head of routine administrative departments (Personnel, Finance, Supplies etc.).

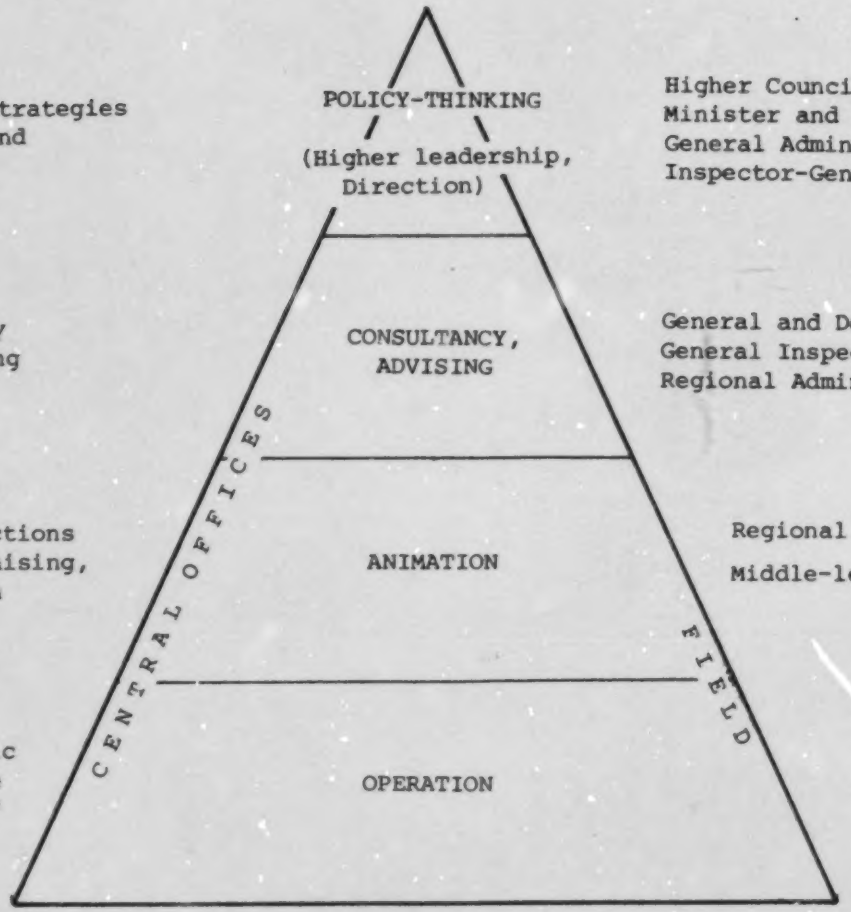
Diagram 1. Levels of action of the Costa Rican Educational System (circa 1970)

Level at which philosophy, policy and strategies of the organised group are elaborated and fundamental decisions are taken

Level of those who, imbued with the philosophy and other elements defined by the higher level are capable of directing and orienting the activities of others

Level of those who, under concrete directions of "advisors", are responsible for organising, actuating and supervising implementation

Level of those who carry out the specific activities of the organisation under the detailed instructions of the "animators"



Higher Council of Education
Minister and Vice-Minister
General Administrator, "Official Mayor",
Inspector-General

General and Departmental Directors
General Inspectors by school level
Regional Administrators

Regional and District Inspectors
Middle-level authorities of Central Offi

Heads, teachers,
other school personnel
Lower staff of central
and regional offices

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the suggestion of isolation and lack of permanent contact between different staff and offices which results from separate boxes on organigrams. In the pyramid of levels of action, their integration in a single whole can be shown without intermediate spaces which in reality do not exist. A further improvement in graphic presentation can also be pointed out: this diagram overcomes the illusion of a unique "chain of command" and shows that all those comprising a level, (for example, that of advisory services) are concerned with the behaviour of staff at the following level, in this case "animation" i.e. inspectors, although they have no direct authority over them.

This basic conceptualisation will be described in more detail in the following sections of the paper but for the moment it is enough to note that inclusion of inspectors at the "animation" level brings greater clarity to any analysis of their activities.

Communication Theory

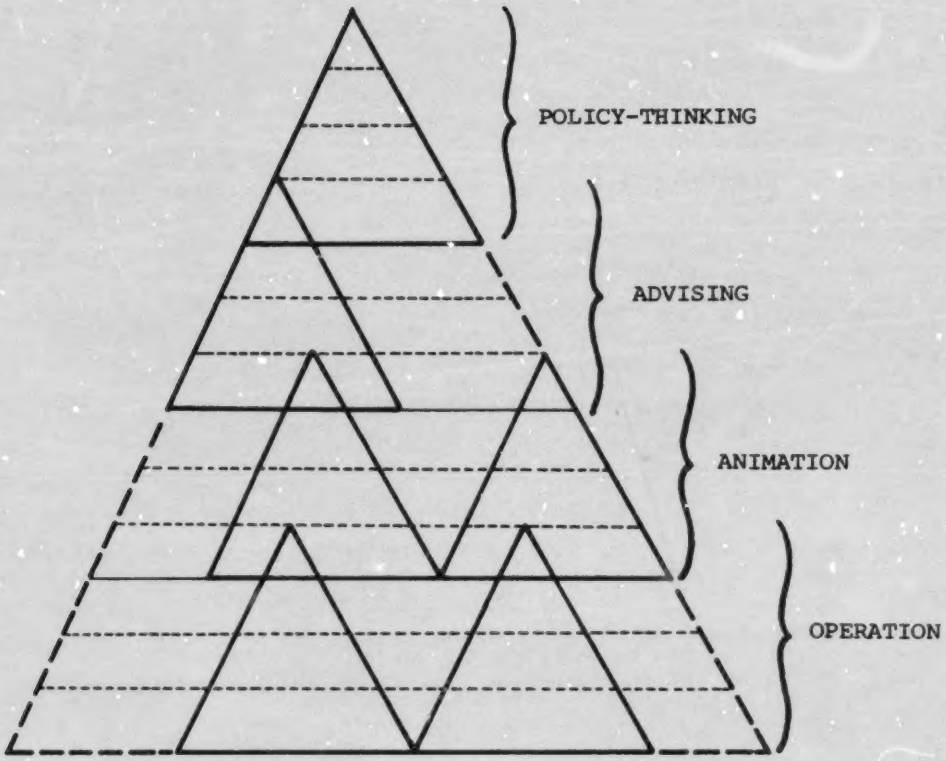
At first glance, the modern theory of communication as originated in Shannon and Weaver (1949), appears to fit the original concept of inspection like a glove: between the sender and the receiver of the message (i.e. alternately Ministry and school personnel) there must exist a channel of communication - the inspector. But this fit is deceptive in more than one respect. Firstly, in the initial version of the inspectorate, the main assumption of communication theories as applied to a system did not hold true, i.e. that communication is two way in that the top and bottom are alternately receivers and speakers. Communication properly speaking (transmission of ideas in the form of regulations, directives, orientations) was in one direction only, from top-downwards: in the opposite direction communication was not of the same order for it concerned only transmission of factual information (facts and figures). If modern communication theory is to be applied in its entirety, the adviser/inspector should carry out a double communicating role, psychologically very different from the traditional one which demanded only that he act in one direction for the transmission of ideas. His previous conditioning makes him nervous when in a basically authoritarian organisation he has to send messages upwards which will not be much liked. He will be tempted to soften the content of the message, which explains why central offices often do not really know what is happening in the field.

However, there exists another problem which is perhaps more serious. The word "communication" itself and even more its usual concomitants (sender, message, transmitter, receiver) by reason of their subconscious connotations, make one think of a very formal, technical and bureaucratic process, more of "things transmitted" than of "persons who communicate", i.e. to think of distance rather than of contact, of the cold and impersonal written word rather than of direct human relations.

A tool for conceptualizing the levels of action described above, could greatly contribute to dissipating these misconceptions in that the four levels could be reproduced, in any complex organization, within each level (see Diagram 2). There is therefore an overlap between one level and the next: the operator and even the animator or one level can at the same time be a policy-thinker or advisor of the following level. For example, Directors General, who belong to the upper level of the advisory level, participate in policy-thinking by means of meetings with the Minister and Vice-Minister. Inspectors, on the other hand, are policy-thinkers at their own level in conjunction with the regional director, and in carrying out their functions of animation they become co-policy-thinkers at the lower level together with school heads. This model is very flexible because it is based on the functions necessary to the system and carried out at different times by those who occupy a particular post, instead of being linked to posts themselves as if they were fixed mechanical gears, related only externally and always in the same way as is suggested by the separate boxes of an organigram. The same post, by being involved in a whole series of relationships, contains in itself various possibilities for communication - the theory thus becomes more realistic and can solve the difficulty noted above.

In effect, the same person (inspector at the animation level) who at a certain moment is the receiver of a message sent by a higher authority, may redraft it together with the transmitter (representatives of the advisory level) then take it as personal transmitter to the peak of the operational level (heads of schools) with whom it will again be reformulated so that both may deliver it, without distortion, to the ultimate receiver, the teacher. In contact with the latter (by visits or meetings) the inspector in turn becomes receiver of the reply which is given in words

Diagram 2. Over-lap of levels of action



The same person or staff member may function at
two contiguous levels of action at the same
time

(opinions and ideas) or by observed behaviour, and in a similar upward process of direct contact and communication, a new message safely reaches successive levels of decision-making to serve as feedback.

Thus combining communication theory with the concept of levels of action not only enriches the former, but puts into our hands an analytical tool and several evaluation standards which are useful for the construction of the model needed for this research.

Decision-making Theories

The actual processes of decision-making in large organizations have in recent years become the centre of attention of management theories and are being considered more and more as the very heart of management. They directly touch on the nucleus of institutional management, i.e. the question of power as indicated by M. Crozier who complains [1/] that the majority of authors ignore this essential question and draws attention to the "cauldron" of contemporary ideas on the problem of participation in increasingly technified societies.[2/]

Decision-making theories affect our analysis of the inspectorate (intermediate functional level). They show that, between decisions taken at the global policy level which determine the major objectives and programmes of action, and the small decisions involved in each worker's daily tasks which are often taken as a matter of routine and without great thought, there exists a whole series of intermediate levels in which the major decisions must be broken down into smaller more precise decisions according to the competences of the operators and their concrete margins for action. In the reverse sense, they show that the series of lower and intermediate decisions and activities, together with the information generated, condition real possibilities of decision-making at higher levels, so that there is participation even if only in an implicit form. Theoretical problems concentrate above all on ways of converting this into a conscious and explicit process so that lower level actors know and feel that major decisions are at least partially theirs, thus increasing the probability that they will be put into practice.

1/ Crozier M. op.cit. and also "La société bloquée", Paris, Ed. du Seuil, 1970

2/ c.f. In this respect the sharp analyses of John K. Galbraith, particularly in "The New Industrial State", New York, the New American Library, 2a.ed.1972.

Of course, this more responsible role in forming and interpreting higher decisions was not originally expected of inspectors. On the contrary, it was assumed that measures decided upon at the centre of the system, for example, an educational programme for a certain grade on a certain subject, should be carried out to the letter by schools and teachers, so that the only decisions of inspectors would consist of punishing those who failed in their duties.[1/] In the upward direction, the mission of the inspector consisted of sending "complete and documented" reports (bi-monthly or annually, monthly for statistics) or specific reports on certain aspects of the functioning of the system (buildings, libraries, budgets, etc.). However, in the 1886 Law (Art.31, clause 6) a first possibility appears of contributing to decisions by including in annual reports "suitable modifications or reforms to improve organization and the progress of educational institutions".

But later on, due to an increasing tendency to democracy and participation, as well as a greater realisation of the complexity of educational processes, a certain latitude was conceded to inspectors (and more so to "inspector-advisors") in the making of secondary decisions. These new tendencies complicate what is known as communication theory since now the transmission mechanism (inspectors) can modify the message, not so as to make it inexact but so that it may efficiently arrive at its destination. Also these new tendencies change, in no small way, the principles of organization theories: for the intermediate agent cannot now limit himself to quoting higher authority in order to demand the carrying out of orders and directives because these have become, up to a certain point, his own decisions. He should then give them the backing of his professional authority, which is less and less accepted by his subordinates as being equivalent to legal power or position in the hierarchy.

Undoubtedly consideration of the decision-making process greatly modifies the elements previously identified for the elaboration of an analytical model of the inspectorate, particularly those variables classified as "personal and professional".

1/ "Ensure that teachers keep strictly to methods, text and programmes of education approved by the Government" (1886 Law, art.10) "ensure that... instruction is given in accordance with study plans, programmes, texts, hours, methods, procedures and forms established by the authorities" (Regulations 1907, art 1.b)

3. Provisional Conclusions

The review undertaken above of what might usefully be incorporated in the construction of an analytical model of the inspectorate from the principal theories of management, as well as the previous consideration of theoretical ambiguities revealed by history, already permit the identification of a considerable number of elements that ought to be included.

However, the model is not yet formed: only a complex of relatively dispersed elements are there, but on this basis, in the following chapter, an attempt will be made to construct an integrated scheme using the systems approach. For the moment it would be useful as a preliminary step to put into order what has been obtained, so as to allow a subsequent appreciation among other things, of the possible merits of the scheme.

To this end, two types of variables will be used in a matrix: from left to right criteria pertaining to each of the three current theoretical schools: viz: organizational analysis, communication process and participative decision-making, enriched by the Social Cybernetics concept of levels of action. On the vertical axis, perhaps more empirical but nevertheless still useful for obtaining a comprehensive view of the whole, are the basic elements of the inspector's profile and the components of the relations necessary to his role, whether with subordinates, superiors or inspectorate colleagues (see Diagram No. 3)

II. SYSTEMS APPROACH TO THE INSPECTORATE

After the above partial analysis, it is now indispensable to achieve integration of the elements already found in a coherent synthesis which will give them meaning and proportion so that they may be useful for this and future research.

It is intended to use the systems approach, by which is understood, in agreement with Joel de Rosnay,[1/] the conjunction of Cybernetics and General Systems Theory. An explanation of these theories, which over the last three decades have given rise to an enormous number of studies and researches in all fields of knowledge[2/] will obviously not be undertaken here.

1/ DE ROSNAY Joel, Le Macroscope, Paris, Ed. du Seuil, 1975 p.91

2/ Cybernetics has its source in the works of Norbert Wiener after the publication in 1948 of "Cybernetics". General Systems Theory, elaborated by Ludwig von Bertalanffy somewhat earlier, acquired enormous influence after the foundation in 1954 of the Society for General Systems Research.

Diagram 3. Tentative elements for an analytical model of the inspectorate

Theoretical approaches / Relations links	THE INSPECTOR AS A STRUCTURAL COMPONENT	THE INSPECTOR AS COMMUNICATOR	THE INSPECTOR AS A PARTNER IN MANAGEMENT
I. PERSONAL ELEMENTS	Capabilities: studies, training, pedagogical and administrative experience; positive attitude to human relationships. Openness to socio-economic-cultural context of school. Global frame of reference ("weltanschaung"). Ability to maintain fluid communications		
II. RELATIONAL ELEMENTS (a) Downwards	Professional authority: advice, guidance. Hierarchical authority (power): - transmission of rules - checking on their fulfillment	Sender Receiver	Interpreter of higher decisions. Producer of own sub-decisions. Evaluator of behaviour and output. Receiver of opinions and suggestions.
	POSITION IN ANIMATION LEVEL	TRANSMITTER	PROVIDER OF
(b) Upwards	Hierarchical subordination Technical subordination	Receiver	Depositary of higher decisions.
	Factual information	Sender	Thoughtful/critical informant. Spokesman for opinions and suggestions. Producer of proposals for decisions.
(c) Horizontally	-	Regular contacts	Co-evaluator of facts and behaviour. Co-producer of proposals.

It is enough to recall that this approach involves a holistic conception as well as global methodology, which when applied to any complex but self-perpetuating reality can be understood as a whole interacting with other wholes ("open" system), thus making it feasible to direct it towards equally global goals. The well-known basic elements of systems theory (inputs, process, outputs, regulation) function and are modified by means of information about actual performance fed to decision centres as well as by feedback about changes in surrounding systems (of the same category, higher (supra-systems) or part (subsystems) which provide its energy (input) and to which it delivers as converted energy the results of its activity (output).

In the case under study, that of the inspectorate as a subsystem of the formal educational system, a serious difficulty is that the concrete application of this vast concept to education is still to be accomplished. There is no lack of works which in one form or another link "education" to the "systems approach". But they usually deal either with the curricular subsystem, studied at the classroom or school level,[1/] or with macro-sociological approaches[2/] or with the application of mathematical-cybernetic tools to particular aspects of education, like curriculum development.[3/] There are practically no studies of this type on the entire educational "system",[4/] and even less on its

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1/ As are a great number of North American studies, which are in any case of little use in the Latin American context.

2/ For example, the recent and important work of Antoni J. Colom,"Sociologiá de la Educación y Teoría General de Sistemas" (Barcelona, Oikos-Tau, 1979). But though in the chapter on "the systemic bases of the sociology of education" he devotes a section to its "organisation", in fact he only analyses systemic aspects of the pedagogical process itself: nothing is said of educational administration in a Ministry nor on inspection.

3/ As in the also very recent work of Javier Salazar R. Enfoque de sistemas en la educación: teoría de Gráficas, Méjico, Limusa, 1979. This author uses a great variety of graphic-mathematical tools for curriculum development, particularly at higher educational level but does not mention the institutional school system at all.

4/ A very notable exception was, some years ago (1967) the well-known work of Philip Coombs on The World Crisis in education: a systems analysis, London, Oxford University Press, 1968. But its approach, though worldwide, could not go into details and does not appear to have been followed up by subsequent studies. Even the outstanding report of the Faure Commission "Learning to be" Paris Unesco 1972 makes reference to "systems analysis" (Ch.5) only in the sense used in computation as a method of programming and not to understand and manage institutional systems. In other sections (Chs. 7 and 8) it emphasises the necessity for diagnosis, global strategy, integrated models, etc., but makes no attempt to apply these in detail given the nature and scope of the work. School administration is relegated to a few remarks and the inspectorate is not mentioned at all.

administrative organization considered as a system.[1/] Absolutely nothing (to the author's knowledge) exists on the inspectorate subsystem as defined here.[2/]

Thus an as yet unexplored territory has to be entered. An additional difficulty is that school inspection is not properly speaking an autonomous system, not as a function among the multiple duties of the majority of educational staff, nor as a grouping of those who are responsible only for inspection. In both cases (although only the second is studied here) supervision is only a subsystem, inseparable from the global system of which it forms part. Therefore the systems approach will have in this case to use a model in which elements of the educational system itself are included, as related to inspection which will occupy the centre.

In order to give solidity to this process of mental construction, once again a series of successive approaches will be used. First of all, three preliminary schemes will be reviewed based on the systemic concept but less formal. They stem from the historic evolution of the concept of inspection as well as from the three management theories discussed in the previous chapter. Then the complete systemic "model" will be developed, based on the "normal" situation of an inspectorate organization of the Costa Rican type (i.e. when no significant changes are intended). Lastly, the special elements which arise in a situation of planned reform will be integrated. It should be kept well in mind that in all cases this will be a dynamic representation, since interest lies in the process organised around the inspectorate in keeping with one or other theoretical concept, and not in the detailed analysis of the elements per se.

1. The initial concept and its progressive development

As deduced from an examination of its historical evolution, the heart of inspection was from the beginning, and continues to be, its function of administrative articulation of the formal educational system, as a transmission mechanism between the central authorities and the operational centres-schools. This concept, scientifically identified by organization and bureaucracy

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1/ LOURENCO Filho in his publication "Organización e administración escolar" Buenos Aires, Kapelusz, 1965, comes rather close to this approach but does not quite cross the threshold.

2/ Coombs Ph. op.cit. in his chapter on "Internal functioning of the educational system" includes a section on "Management: operation of the system" (pp.174-183) where neither inspection nor inspectors are mentioned.

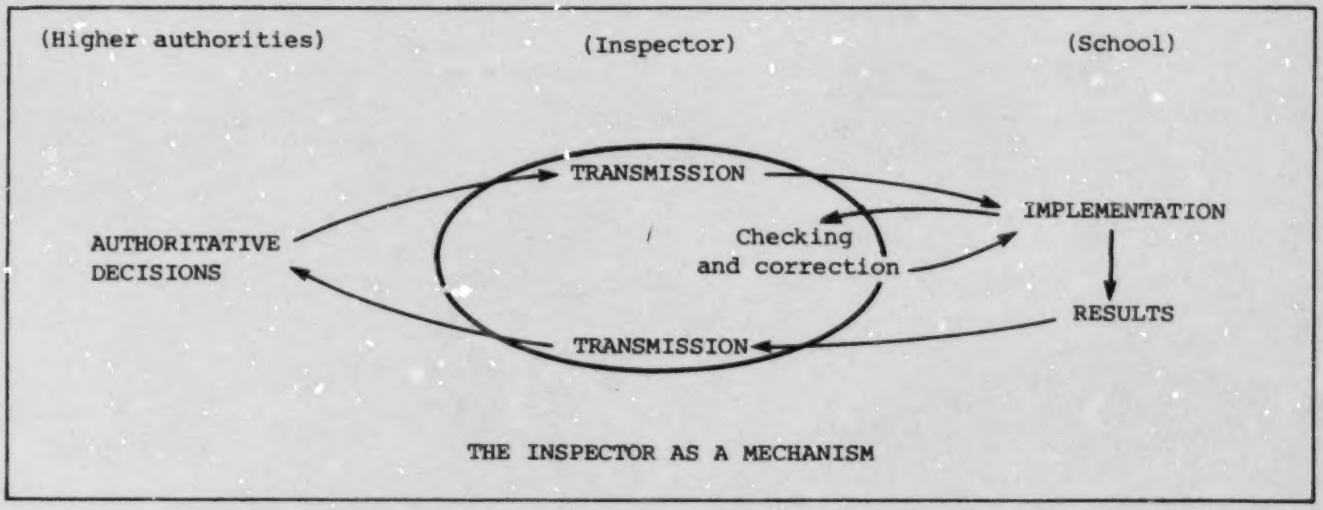
theories, was subjected to corrections and additions by later schools of thought, but it nevertheless remains the core of the question.

Thus in the initial inspectorate model derived from industry (see Diagram No. 4I), the functional process takes an extremely simple form. The core of the inspector's work was the transmission of information in both directions, primarily so that heads as well as Committees of Education, municipalities, etc., would know the legal dispositions and regulations, programmes of study of other components of education and whatever directives were sent out by the authorities: conversely the latter has to be kept informed of how their orders were being fulfilled and what results were being obtained. Complementarily, and principally so that the second type of informative communication would be possible, transmission of the first type was accompanied by constant surveillance. This, in turn, resulted, although not in all cases, in immediate corrective action being taken by the inspector in order to improve the carrying out of directives and (it was thought, automatically) to increase the degree of achievement of educational objectives. Thus no doubts were permitted as to whether the central orders, correctly executed, would produce the effects sought. In any case, this was not a question which fell within the competence of the inspector.

Subjecting this elementary model to analysis, certain inputs may be distinguished: legal norms, orders and guidelines received by the inspector for transmission; general administrative regulations, and of course the formal appointment of the inspector. As to the process, an analysis of the "black box" of the system (the inspector himself) shows first his professional capacity (considered to be quite low, hence the strict limits set for his activity). The operative components of his activity are supplied by answers to the questions "where?" (circuit, schools) with whom? (personnel, students, committees, municipalities), when? (hours available during school year), what? (visits to school and administrative duties) and how? (various forms of communication, not yet theoretically analysed). As concrete manifestations of the process there are actions directed toward subordinates (instruct, check and correct) and towards superiors (report). Finally, under the category of outputs, there are the effective transmission of directives, correction of deviations, and transmission of information, all of which should contribute in the long run to the final

Diagram 4. Three views of the supervisor as transmission agent

I. "Industrial" Concept
(Related to classical organization theory)



II. Intermediate concept
(Related to communication theories)

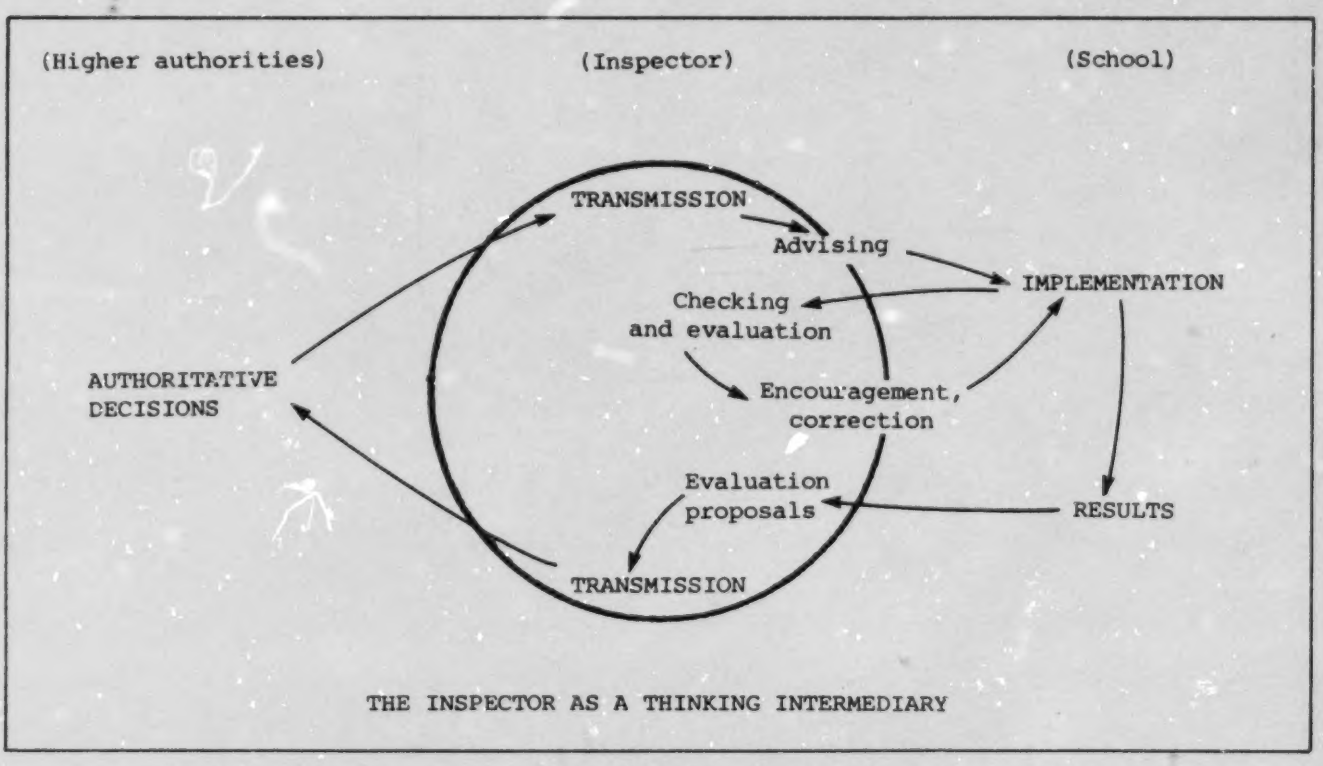
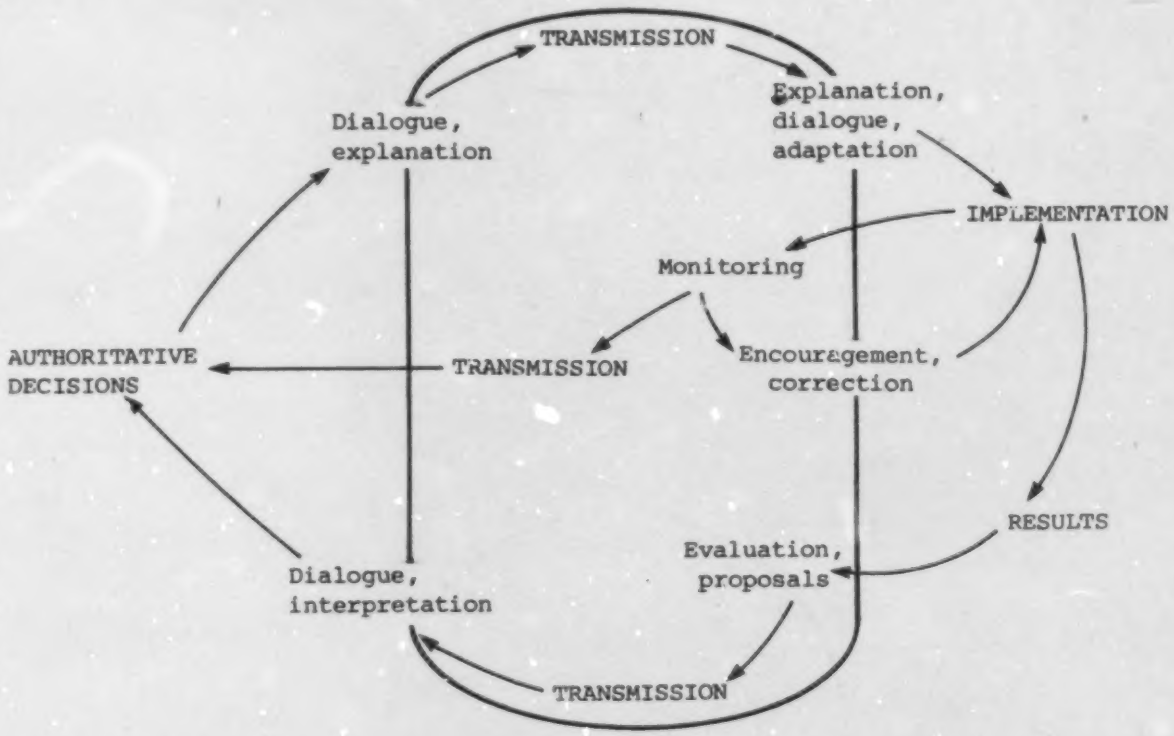


Diagram 4(continued)

III. Up-to-date concept
(Related to decision-making theories)



THE INSPECTOR AS PARTNER IN MANAGEMENT

product of improving education. This formed quite a simple and linear systemic whole, where the internal process of the actor (inspector) was kept to the minimum, since his essential work was not to think but to transmit and check.

In the first change of the model, which slowly occurred under the influence of the educational sciences which were at that time adjusting to the impact of psychology, various relatively simple additions took place, which it is easy to fit within communication theories, although the formal appearance of such theories took place at a later date (see Diagram 4.II). It was not considered sufficient to formally and once only transmit orders and guidelines which were becoming more complex and containing more nuances: the inspector was requested to advise on their interpretation and execution. In consequence, the function of checking and correction (which lost none of its force) was enriched by more detailed evaluation and positive encouragement to obtain ideas from heads and teachers, at least when it was a question of adapting central directives to concrete circumstances and not substantial innovation. As regards information transmitted upwards, the inspector was invited to add his opinions based on some type of evaluation, as well as proposals and suggestions to improve the effectiveness of education.

From the point of view of systemic analysis, this modification does not involve any spectacular increase in inputs: some supplementary material resources are granted and there is a better administrative framework in the form of new specialised ministerial departments; progress is mainly in the change of emphasis given to instructions received by the inspector through different channels although the regulations themselves almost never changed. As to the inspectorate process, it has a somewhat increased potential by reason of improved initial training and wider previous experience as teacher and head, and supposes that the incumbent is capable of exerting personal influence as well as formal authority. The majority of components called "operative components" have not changed much as regards the physical setting, the persons or co-actors in the process or in the time available; but a significant enrichment has occurred as regards the inspector's agenda (meetings with staff of schools and superiors, refresher courses) and as regards forms of communication (more within group), and begin explicitly to include horizontal communication with other inspectors. Activities of the process acquired new facets of evaluation, advice and encouragement of subordinates

and of proposals and suggestions to superiors. The products of the process are likewise enriched and the final product "improvement of education" is supposed to reach higher levels.

The third diagram of the series (4.III) was not put into practice in Costa Rica during the period considered but reflects quite well the orientation of the subsequent Education Development Plan which forms the context of this research. The influence of decision-making theories can be seen very clearly in this diagram. In fact, the principal developments in comparison with the previous diagram are to be found in the relation of the inspector with the higher authorities (policy-thinking and advisory levels as defined in the previous chapter). As regards relations downwards, it is already assumed that the inspector is not limited to passive receipt of higher decisions: there is a process of dialogue, clarification of objectives, explanation of their consistency with concrete measures proposed, and advice to the inspector on how to apply them in the circumstances of his area. In the final phase of the cycle, on the other hand, the inspector is not limited to transmitting (i.e. sending in written form) his reports and proposals, but may participate in further dialogue with his superiors, generally in collective meetings in which opinions and suggestions from each inspector confront those of others so as to give the authorities better insights as regards new decisions which should be taken.

Another new element is also evident - that of monitoring of the implementation process. The inspector does not do this only to aid his own decisions about encouraging and correcting in the field, but also to give constant feedback to decision-making centres so that the necessary measures can be taken in time; it is not merely a question of making a post-mortem evaluation which is incapable of rectifying unsatisfactory results.

Systemic analysis of this model shows a substantial enrichment of inputs, particularly in the form of new institutional "customs" in the area of communication. In the "black box" of the process which is the inspector himself, a notable increase in capacity to use sociological and economic parameters is taken for granted. Operative components, without changing in nature or number, acquire a broader scope in several ways, (a) an increase in physical resources (equipment, transport, communication), (b) new forms of participation of the various actors (especially the community) and the appearance of new actors (non-school development agencies), (c) increase in

proportional weight and time given to meetings and discussions on major problems of the system, and (d) considerable increase in communication in three dimensions: with teachers' groups, horizontally (between inspectors) and externally (with community and various agencies). All this is reflected in new activities, such as those of examining and comparing guidelines and results with colleagues, or, on the other hand, in the emphasis given to activities already carried out - centred more on reflection, evaluation, personalised assistance, stimulus to innovation and elaboration of contributions for decisions at the higher level, than to mere transmission of orders and documents, checking or correction. The execution of such activities is experienced as immediate products by subordinates, superiors and colleagues; the change in the final product is quite a different question, to be taken up later.

This view of the inspectorate as a process embodied in the inspector and analytically identified in three successive models,[1/] whose elements are arranged in a systems perspective, brings us to the threshold of the overall systemic scheme that is the object of the study.

2. The Overall Systemic Model

As can be seen, the three preceding analyses have introduced certain unusual categories presented them "in action", showed how they function and have thus paved the way for their formal presentation. The same procedure cannot be continued when it concerns the final framework without falling into the error of begging the question. That is why it is necessary to delay a moment to explain the structure of the overall framework in order that it may be applied without ambiguity to the school inspectorate subsystem.

Dynamic view of the "system" as a "process"

The general framework which will be employed is a fusion of General Systems Theory with Cybernetics, as explained at the beginning of the chapter. But in order to bring this closer to the reality under study, it will be

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[1/] It is scarcely necessary to say that these three models are like prints composed by the photographer from many others with the aim of synthesising the traits which correspond to the three concepts of the inspector's mission : at no moment have they been found exactly like that in an ever-changing reality where each element appears and unfolds without necessarily coinciding with the timing of other elements that make up the photograph.

necessary to extend it in two directions, i.e. in aspects external to the system (inputs and products, those included in the EIPOL matrix drawn up at the IIEP by Ravindra Dave)[1/], and as regards the process carried out within the system, several basic contributions from Social Cybernetics especially developed for this study.

The works of Stufflebeam and Dave, oriented towards the establishment of a general framework of analysis for continuous evaluation arrive at a break-down of the two extremes of the systemic process - inputs and outputs. In the first case, a distinction is made between inputs proper, material and non-material which directly feed the process to be evaluated and the "context" which conditions them (ideas, values, customs and other factors of a social, economic, political, cultural, order etc., in a historical perspective, as well as - in agreement with Dave - felt needs and established priorities).

As to products or outputs, Dave is the first to clearly face up to the uneasiness often expressed in regard to the difficulty of estimating the effects of education: he makes an operative distinction between immediate results generally susceptible to measurement or at least to an estimate, and long term results more difficult or impossible to isolate for quantifiable analysis.

Thus there are five analytical steps in the process, on which the abbreviation EIPOL is constructed (Environment, Inputs, Processes, Immediate Outcomes, Long-range Effects). The distinction between the immediate context of the systemic processes and their more distant environment has been made several times but without putting forward an operative classification as in Dave's scheme. The latter provides a systematic identification, in order of time and intercausality, of the dynamic elements situated upstream and downstream from the central systemic process that it is desired to

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[1/] Based on previous work by Stufflebeam et al, see Stufflebeam, Daniel L. Educational evaluation and decision-making, Itasca, Ill. F.E. Peacock, 1971. In a document written for the IIEP; Monitoring educational reforms: towards a methodological framework, R. Noonan quotes the use of this author's model (composed of context, inputs, process, output) by many others in recent years (Seminar Document IIEP/S56/10A, 1979). Dave's concept was explained in a document for the same seminar - "A built-in system of evaluation for reform projects and programmes in education" (IIEP/S56/4A).

analyse. For example, the activities of inspectors do not only depend, as concerns finance, on the budget assigned (input) but in turn are conditioned by the financial regime of public administration (part of the environment). The former would be relatively easy to modify but only within the limits imposed by the latter, which is much more resistant to change. Also, a series of corrections to school practices (immediate product of the inspector's activity) would only be seen to have effected an improvement of education offered (long term effect) after a rather long period of time and then, in conjunction with the "products" of other activities of the inspector and other educational subsystems, such as teaching materials.

However, having obtained in this way a more careful definition - in five temporal-causal categories - of the elements active in the systemic process, there is still considerable obscurity as concerns the elements contained under the global heading "internal processes" - hence the appellation used by many authors of "black box" of the systemic concept. Many sets of categories have been proposed for the analysis of these confusing processes from the application to institutional systems of basic concepts of physical and mechanical cybernetic systems (deposits, flows, switches, feedback circuits, etc.)[1/], to adaptation of models taken from other scientific theories, above all sociological, such as that of Talcott Parsons[2/] or the differentiation of interactive subsystems within the global institutional system, such as the five proposed by Kast and Resenweig.[3/]

But theories of a technological origin, with clear and precise distinctions, are of doubtful application in the incomparably more complex world of human interaction. On the other hand, sociological or other behavioural science models are apt to be too general to be really useful in a concrete analysis such as the present one. And the proposal of Kast and Rosenzweig, extremely interesting for more global cases, has the disadvantage that it transfers the difficulty, multiplied fivefold, to the next level of analysis; it requires distinctions within the "black box" of the institutional actor, of five subsystems each with its own inputs, process and outputs, in complex interaction - and thus five "black boxes" instead of one.

In this paper a different scheme will be proposed for analysing the internal processes of the inspectorate subsystem (those which correspond to the P of EIPOL. It is simpler and at the same time more adequate for our

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1/ See Joel de Rosnay, op.cit.

2/ The author refers here to his general model based on four subsystems of the General Theory of Action, the four structural components and the four functional imperatives, united in an upward flow of information and top-down control (Theories of Society, New York, Glencoe, 1961).

3/ In Organization and Management: A systems approach, New York, McGraw Hill, 1974. A very lucid analysis of this is to be found in Rocher, Guy, Introduction à la Sociologie Générale, Montreal, Editions Hortubise, 1970.

Diagram No.5

THE INSPECTOR AS ACTOR IN THE SYSTEM (I)

ORGANISATION OF THE ELEMENTS

INPUTS		PROCESS (BLACK BOX)			OUTPUTS	
Environmental Factors	Direct Inputs	Potentialities	Operational Components	Actions and Operations	Immediate Outcomes	Long-term effects
"NORMAL" situation Legal norms Customs of the system Administrative framework Budgetary allotments	Orders instructions guidelines Material supplies Financial resources	TRAINING: education, experience, global vision attitudes aspirations CAPACITIES: pedagogical administrative contextual authority influence TIME available	PHYSICAL SETTING: area under jurisdiction buildings and equipment ACTORS: personnel, students, community non-school agencies, colleagues WORK AGENDA: visits, meetings, study, discussions administrative actions PRAXIS: Communication written, oral individual, group down, upwards, horizontal Use of time	Instruct. advise Verify Evaluate Encourage Correct Report propose Confront, compare, cooperate	Instructions and orders TRANSMITTED Advice GIVEN Achievements EVALUATED Deviations CORRECTED Initiatives STIMULATED Criticisms and proposals PUT FORWARD Factual information TRANSMITTED Exchanges/co-operation EFFECTED	Improvements in education
Situation of CHANGE Political will	Objectives, plans, projects, targets	Participation Comprehension Commitment	Content and Focussing of Organization of Action		Parameters and Focus of evaluation	Specific changes and improvements

needs, but would also be applicable to other institutional subsystems. Several classifications and instruments taken from Social Cybernetics will be used. A complete explanation of which would go beyond the boundaries of this study,[1/] so it is proposed to limit this paper to explaining what is indispensable to understand the global framework adopted.

Analysable elements of the systemic "actor"

It should be recalled that what is being analysed is what happens within the system of the "actor" - individual or group - of the process under analysis. By dynamic elements is meant those which change as well as those which make others change (themselves remaining largely unchanged) or lastly the actions by which changes are produced.

The inspector acts primarily because he is able to: i.e. meaning not the inputs he received, which are only instruments coming from the exterior rather than powers of his own, but rather the potentialities for action he possesses when confronted with whatever concrete process he has decided to undertake. Such potentialities may perhaps be due in part to previous inputs, to past accumulated experience, but in any event in the particular context of an action, they are elements already there which probably contributed to the implementor being chosen for a particular activity (or to his choosing it himself). As can be seen, it is a question of traditional "qualifications" or "requisites" for a mission but now seen in a dynamic role, integrated into the process. In the overall framework of systemic analysis these potentialities have to be placed in the first column (see Diagram 5) because they are not something static but dynamic and interwoven in any action.

In the second position are placed "operative components" which are deployed during the action and freely used by the actor in different combinations according to his potentialities. These elements represent the dimension of change of any system or social subsystem (for the system itself persists) and are the answers to the basic questions which have to be put to the actor:

1/ See Waldemar de Gregori, Op. Cit. Also the articles in the series "Estudios Tecnicos" which the Instituto de Cibernética Social Aplicada a la Planificacion, ICSAP, San Jose, Costa Rica (1981) has begun to publish.

- where is the activity carried out: what is the physical context which both conditions it and is modified by it?
- when is it done? (The temporal context)
- with whom is the activity carried out? The co-actors in the process, the human context by category, interacting with the main actor.
- how is it done? Agendas or organized programmes of action, modes of communication, rules which have to be respected (values, culture and ideology) which underly the action and lastly the material and financial inputs provided for the activity.

This list of "operational components" (called respectively the environment, time-table, praxis, actors and the action itself) is highly flexible for the purposes of analysis. According to the system analysed, it is possible to place them in different columns of the diagram, or to distribute them between columns, according to the moment in time of the global process in which they become more dynamic, as will be seen when this is applied to our problem.

In the third and last place, this breaking down of the various parts of the "black box" requires that an analysis be made of the activities carried out by the actor according to his potentialities and by organizing the operational components. In accordance with the dynamic approach adopted by Social Cybernetics, it should not consist of a simple list of activities such as those that may be found in the "duties and responsibilities" of traditional regulations but of actions that are correlated and ordered in accordance with the "cybernetic cycle of thought and action". This idea is in effect that of a cycle of action constantly receiving feedback and governed by the mind: there are no separate moments or phases of thought and others of action, as suggested by the so-called methodology: "action-thought-action" (which may be very useful in other contexts). The cycle under discussion is composed analytically of eight moments or groups of action: i) define the subject; (ii) gather the relevant information; (iii) evaluate (or diagnose) the situation; (iv) visualise the desired future; (v) decide on a course of action between possible alternatives; (vi) programme the activities; (vii) carry them out and (not lastly, but all the time) (viii) provide feedback to the cycle in any of its phases through continuously verifying how it is working and what results are being obtained. In a global analytical framework such as is being constructed,

the preceding list must be translated into terms which correspond to the specific forms taken by the phases of action in relation to the nature of the overall mission of the actor.

Thus, seven columns for the organization of the framework are obtained, after having sorted out the contents of the three obtained in the initial approach. The first two correspond to inputs (environmental and direct); the next three embrace the process itself (potentialities of the actor, operational components of his activity and the actions) and two more correspond to output (immediate results and the long term repercussions or effects).

The dynamic linkages among them are as follows. The environmental factors which are, of course, products of other systems or suprasystems related to the one under study, frame, orient and directly condition the inputs which support it. Indirectly they influence in a more diffuse manner the rest of the process. The immediate inputs support with specific contributions - and thus also condition - the potentialities of the actor. These are revealed in the concrete organization and putting into action of the operational components. These produce more or less immediate, direct and visible results in other systems or parts of the same system, which in turn and combined with results of other systems or subsystems, will in the long term affect (as final products) situations related to the goals of the whole process.

Needless to say, the process as a whole is sustained by two undercurrents which act all the time and so cannot be given a specific place in the diagram; on the one hand, the stream of goals and motivations, which gave rise to the system, to the actor as such, and to the process (and which are in themselves originated in other social processes); and on the other, the continuous regulation (feedback) of the process, intended to keep it in line with goals and motivations.

A final observation on this general framework may be useful for helping to interpret and apply it. Due to the influence of everyday language, the word "system" for most people evokes a static view, a structure

of correlated parts but on the whole almost unchangeable,[1/] while the term "process" suggests movement, but movement whose outlines are imprecise and little susceptible to analysis except in the time dimension. At this point, the reader will have already perceived that the author does not agree with such views; a system, particularly a human, open system, undergoes a permanent process of adaptation and change; the "process" is structured and can be analysed, since it works by means of the relationships among the "structural" elements of the system. In a word, for the aims of a study like the present one, there is little point in differentiating between "systems" (in movement) and "process" (systemically approached).

3. The analytical model applied to the inspectorate

At last the operational elements which occur in the inspector's activity as "systemic actor" may be placed correctly in a diagram of the system in action ("system-process"). Such elements have been gradually identified in the preceding sections: first in history, then through a perusal of regulations, later by means of preliminary theoretical analyses, and finally by building up an integrated model. Explanations of its application to the inspectorate can be rather brief, since the essentials can be expressed mainly in graphic form.

The basic subdivision (Diagram 5) stems from the three main dynamic sectors stipulated in systems theory: inputs, process, outputs. After breaking down these areas according to the operational distinctions which have just been defined, a framework of seven columns is obtained in which the above-mentioned elements can be placed, for subsequent study in their dynamic interrelationships (Diagrams 6 and 7). These columns will be:

[1/] This criticism is not directed only at the mechanistic concept of systems but also at the organic, for in both cases the result is the same: a system which can only vary between narrow parameters of maximum and minimum fixed by its self-regulatory mechanisms. In social systems, on the contrary, limits of movement (i.e. development or collapse) are not determined. The play of power and conflict, whether internal or in relation to external systems, can lead the system to unforeseen areas. Parameters of homeostatic regulation vary in time due to the adaptive function, so that the swings as a whole take an entropic or anatropic direction. In other words, the future can never be decided upon once and for all.

According to General Systems Theory	According to our complementary analyses
INPUTS	1. Environmental factors 2. Direct inputs
PROCESS	3. Potentialities 4. Operational components 5. Actions and operations
OUTPUTS	6. Immediate outcomes 7. Long-term effects

As to the first column (environmental factors, context), it should be borne in mind that the objective is not to analyse the entire educational system but only the inspectorate. For this reason, many components of the larger environment which surrounds the former do not appear (policies, ideologies, values, aims, national character, traditions, felt needs etc.) but only those which, though internal to the educational system, form the external environment from the point of view of the inspector. Thus in this column are listed: legal norms, customs (or habitual modes of behaviour in the system), organizational and hierarchical patterns which delimit the inspector's field operation and budgetary allotments which affect the inspectorate.

Of course, in all these elements it is very difficult to clearly separate that which directly concerns the inspectorate from the factors which affect the whole or other parts and processes of the educational system. This observation can be extended to a certain degree to the remaining columns of the framework and so will not be repeated in each case, but should be borne much in mind when, in a later phase, critical relationships between several elements are identified and an attempt is made to extract those aspects which should be included in the research.

The second column is begun with those dispositions which higher authorities send to the inspector (orders, guidelines, directives, requests for information) which follow from applying the elements listed in the first column to the inspector. Included here are those commonly known as inputs:

material and financial resources put at the disposal of the inspector. Resources which go to the schools are not included here because generally the inspector is not responsible for their transmission - if this were the case, they should be included also. On the other hand, in regard to orders and directives, those destined for schools are included since their transmission has been the most distinctive feature of the inspector's work since its inception.

The "training" of the inspector, with which the third column begins is a very complex element in itself, in its turn susceptible to systemic analysis: it covers initial and further studies, learning from experience (including possible changes for the worse), a global framework of reference acquired either consciously or sub-consciously, attitude to the profession, the post and human environment, personal and professional aspirations ... It is evident that all are present in "capacities" which is the following element but these capacities, which for our purposes are the most interesting (both for pedagogy and administration, and as regards grasp and speed of understanding of the social context) cannot generally be measured directly but only estimated on the basis of the variables included under "training".

As to the next elements - authority and influence - it is remarkable that they have tended to be overlooked in the few attempts so far made to analyse the inspectorate - perhaps because they are not to be found in models from other sources. However, it is evident that the whole inspectorate system is based on them, i.e. in that the functionary has authority or hierarchical power, founded on the legal and administrative regulations of the global system, and that acknowledgement of such authority implies also that he is capable of exerting influence (more diffuse but deeper) on modes of thinking and acting of other people and groups. In actual fact it is not always like this or not completely, and thus the variable should be made explicit in the model and be given attention in the research.

Lastly, in this third column a potentially decisive element should be noted - often overlooked in many regulations examined - and that is the time effectively available to the inspector to carry out his multiple tasks.

The central column is the most complex of the framework. It consists of an application of the "operational components" postulated by Social Cybernetics.[1/] As stated, these components can be used flexibly in different

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1/ In fact quite a few years earlier in the Theory of Human Organization by Antonio R. Muller, on which W. de Gregori based his theory of Social Cybernetics, see article "Cibernética Social y Planificacion, San Jose, ICSAP, 1981.

places in the framework, for according to the case, they can at times be interpreted as inputs, as potentialities (authority and influence) and even as operations (praxis). However, as a whole they cannot be reduced to any of the other categories - they are real and existing elements although they also involve additional potentials as well and on the other hand, are not actions in themselves but elements that the actor combines in various ways in order to carry out his activities.

The first of the operational components is the physical setting. This embraces the environment: the territory assigned to the inspector, with its topographic, climatic, economic and other characteristics, which both condition his work and which can be used to its benefit. Then there are the school buildings, their equipment, and perhaps other premises that can be used for education. Such components are incorporated in the inspector's programme and integrated in his action.

The case is similar as regards "actors". both those who belong strictly to the school sphere (personnel and students) and those linked with it in some way or who could be so linked (communities and their organizations, public service agencies, businesses). The principal difference is that these elements are in turn centres of individual or group decision-making enjoying different degrees of autonomy and engaged in other processes and systems, so that their integration in the inspection process makes demands on other aspects of the inspector's capacities. At this point the inspector's colleagues are included for the first time - this is something which is generally forgotten, since in the traditional concept, administration functions only vertically as if each inspector was confronting the higher authorities and his subordinates by himself.[1/] On the contrary, here it is considered that in spite of their physical isolation during the major part of their working hours, inspectors for an interacting group with very definite characteristics, which has a very important influence on the individual actions of each and on the feedback sent to higher authorities - thus this variable cannot be omitted from the analytical model.

The work agenda is the translation of legal prescriptions, administrative dispositions as well as particular orders and instructions, into a work

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1/ It is the same situation in a traditional classroom where the teacher attempts to deal with a group of students as if they were an aggregate of isolated individuals and as if the group situation has no value or influence.

programme. Such "translation" is to a great degree the responsibility of the inspector himself and brings his capacities (as defined in the previous column) into play for it is in the work agenda - or planning - that the complex combination of all operational components (which should give the results aimed at by the system as a whole) is carried out. It should be noted that such results are those sought by the laws, regulations and orders of the authorities (columns 1. and 2.) for which activities are prescribed (column 5). What is at issue here is the organization of all the elements and concrete components which make action possible and effective in a particular place, with particular people at a given moment and using that particular mode of work.

It is precisely this mode of work which is covered by the word "Praxis", meaning actual forms of carrying out actions programmed in the work agenda. It is well known (from the work of McLuhan) that there is no sense in differentiating, in one particular actor, between the action and its form (be this called methods, techniques, habits or routines). But it is possible and necessary for our purpose, to distinguish between, for example, visits to schools (which all inspectors make) and the mode of carrying them out (which is distinctive to each inspector, country, epoch). The latter, here called praxis, involves in consequence everything pertaining to communication - in the last analysis, communication is the common denominator of virtually all inspection activities and its principal modes are therefore included in our diagram (oral/written; individual/group; upwards/downwards/horizontally).

The last in this column is time, from the view point of its effective use and not of its availability. It is necessary to know for instance, how the inspector apportions it (in his agendas and in actual fact) between administrative duties and contacts with schools and teachers; the frequency and average length of his visits, etc.

In the following column, the fifth, are the specifications and operations of the inspector's role, in accordance with the theory adopted above. The first four follow a certain logical -chronological order consisting of transmitting directives from the higher authorities with relevant advice, checking and evaluating outcomes, stimulating or correcting according to the evaluation, and reporting to the authorities together with opinions and proposals, either from himself or from the district staff.. However, once

the process has begun, these four basic operations coexist and intermingle, to the extent that often it is impossible to clearly distinguish them during the course of a visit, for example. The fifth column also refers to horizontal contact with inspection colleagues which may go on informally or be organized by the Regional Office - activities which are carried on in parallel with those previously mentioned.

At this point the process of the systemic functioning of the inspector has been covered. The last two columns are reserved for the products of the process, viewed from the system that receives them, distinguishing as suggested between a) direct and tangible results, almost always measurable or verifiable, which are simply the other side of the concrete operations enumerated, and b) the end effects posited rather as an act of faith by the system and which in any case could never be attributed solely to the process of inspection. This remark will have important consequences later in the research.

New elements in a reform situation

Up to this point, the elements and variables that may be found in school inspection in a "normal" situation, i.e. during periods when stability prevails over change, have been considered. By this is meant "stability" and "change" in the educational system as such, not only in the domain of the inspectorate since this is only an operative subsystem ; it is practically unthinkable to have structural reforms of inspection except as a consequence or correlate of broader and deeper reforms of education.

Elements encountered up to the moment and their relative positions and functions, are maintained (though perhaps in different proportions) in the majority of change situations[1/] and this is what effectively happened in the case of Costa Rica. But when educational reforms have a certain broadness of scope, new elements appear in the role of the inspector which it would be necessary to include in the model. This has been attempted in the lower part of Diagram 5.

In such cases, the principal innovation occurs far upstream from the inspectorate, i.e. in the general institutional environment, in the form of political will for change. This will be reflected to a greater or lesser

1/ Except when it is a matter of a really revolutionary reform where the concept of inspection itself changes radically: for example, separating the different functions of inspection and advice "government watchdog" and "counsellor" as occurred in Peru in the 1972 Reform.

degree in the four factors (laws, customs, administration and budget). All these changes will be translated in their turn into new guidelines for action called plans, objectives, programmes and targets. Though the general lines of all these expressions of political will for change may reach individual schools either directly or through the mass media, responsibility for their precise transmission has to be entrusted to the inspectorate subsystem, in order to furnish and interpret the "small print", to check and encourage the changes. They thus become essential inputs of the inspection process.

Such inputs primarily affect the potential of the inspector. By means of short courses, seminars, meetings, etc., efforts are made to augment the capacity of the inspection corps to promote reform. In addition, their participation in many activities where they come into contact with the higher authorities enhances their authority and influence. The new inputs also affect the time available which tends to diminish for a certain period. The result desired in regard to the potential of inspectors is an increase in their understanding of the change sought and commitment to objectives and means, but this will depend, in considerable measure on the extent of their previous participation in elaboration of reform plans. For this reason, participation, understanding and commitment have been placed in the model as variables to be studied.

On the other hand, at the level of operational components which the inspector has to combine and the activities he must carry out, no new elements appear: what changes is the content, orientation and focus of his operative organization and of the activities themselves. The same can be said as regards the immediate outcome of his action: it continues to be a question of whether instructions have been transmitted, their implementation evaluated etc. The changes are thus not visible in the composition of the outcomes but affect their focus and the parameters used for evaluation.

As to the final effects, i.e. specific changes and improvements established as objectives and targets of the plan, normally they can only be perceived after a relatively long lapse of "assimilation" time, during which - at least in the Latin American context - impatience to obtain results distorts attempts at a correct evaluation.[1/] From the viewpoint of the

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1/ For this reason, so few broad reform plans reach their term as foreseen: even without sudden changes of government, political will, always impatient for results which can be capitalised upon, slackens off before time, sometimes just when impartial observers might determine that the plan is at last on the point of showing good results.

inspectorate, the problem is that such results are necessarily the effect of many other factors, processes and subsystems - changes in curricula, methodology, organization, logistics - among which it is not possible to discern the proportion of success or failure attributable to inspection. If there is success, probably it will be attributed to "new programmes" or to politicians and the pedagogues who conceived them without anyone remembering the critical role of the inspectors in the achievement. In the opposite case, it is also probable that the latter will be blamed for not having been able to make the changes effective.

The dynamics of the elements of the model

For reasons of clarity, up to yet the constituent elements of the model have been presented one by one and placed in the general framework without going into the relationships between them except when it was indispensable to an understanding of their nature. But as stated, a system is not the sum or aggregate of its elements, however well ordered or structured, but a dynamic global process in which all participate to produce something (i.e. to effect some change in the environment), in the course of which the system itself and each of its components will also change.

One of the most difficult of present-day problems facing philosophy, is that no-one has managed accurately to express in words this complex, living and changing reality. Mere use of terms having a more or less fixed meaning tends also to "fix" the image of reality which they wish to express.[1/] Without pretending to make any claim to solving this problem here, it is mentioned to introduce some relativity, not only in the somewhat static framework so far constructed but also in the expressions of dynamic relationships which will now have to be employed.

The systemic framework of the inspectorate in Diagram 5 contains some 40 principal elements, the majority of them in turn being broken down into several items. If an attempt were made to show all the dynamic interrelationships (not all the possible ones but only those which in fact take place) the result would certainly be an inextricable confusion. On the

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1/ This problem, mentioned because of its high incidence in the field of education, is central to the thesis of Postman and Weingartner, Op. Cit. whose publication also gives interesting bibliographic references.

other hand, if it is desired to construct a model which will stick to reality, none of the elements can be omitted. In order then to describe the process as it takes place and faithfully reflect it in its totality, without becoming confused, it will be necessary to simplify it somewhat, as follows (See Diagram 6).

Firstly, the principal elements of Diagram 6, are represented by small circles, summarising in one or two words all the previously explained content. In some cases, it is possible to join in one expression two of the elements, when both fulfill basically the same active role within the process in regard to the same receiver e.g. "legal prescriptions" and "administrative framework" since for our purposes they have the same consequence in the process, the issuing of compulsory or indicative instructions. In two cases, several elements have been joined in a larger circle, for though they have relationships between them which it is necessary to note, they are as a whole receivers or senders in the same relationship.

Thus finally little more than 20 basic elements remain which it is then possible to interrelate. In the diagram an attempt has been made to represent only the most essential relationships by means of arrows indicating other main "causal" directions or simply, in some cases, an undeniable influence which is difficult to define. Causality or influence are nearly always reciprocal and in a certain sense dialectic or rather cybernetic with multiple feedback circuits. For example, if certain measures are taken which assume there is a particular ability among inspectors to carry them out, in turn the ability effectively demonstrated (or modified by means of a training activity) can lead to a change in the initial measures.

However, if an attempt were made to represent graphically all these relationships, the tangle of crossed lines would make the diagram unintelligible. It is therefore suggested that any interested reader should take the diagram in a heuristic sense, identify other relationships (direct or of feedback) which he considers critical in his case and superimpose these on a number of successive copies.

This said, in the diagram one may find at the level of inputs, a first constellation of elements whose central point is the legal prescriptions and administrative set up: this is the point where, in the case of reform, political will for change has its principal impact. Influences by institutional customs and the budget, and affecting them in turn, this complex element is

the principal source of orders and directives sent to inspectors as essential inputs for their action and transmission to schools. On the other hand, the budget commands the material and financial resources which constitute the other immediate input to inspection.

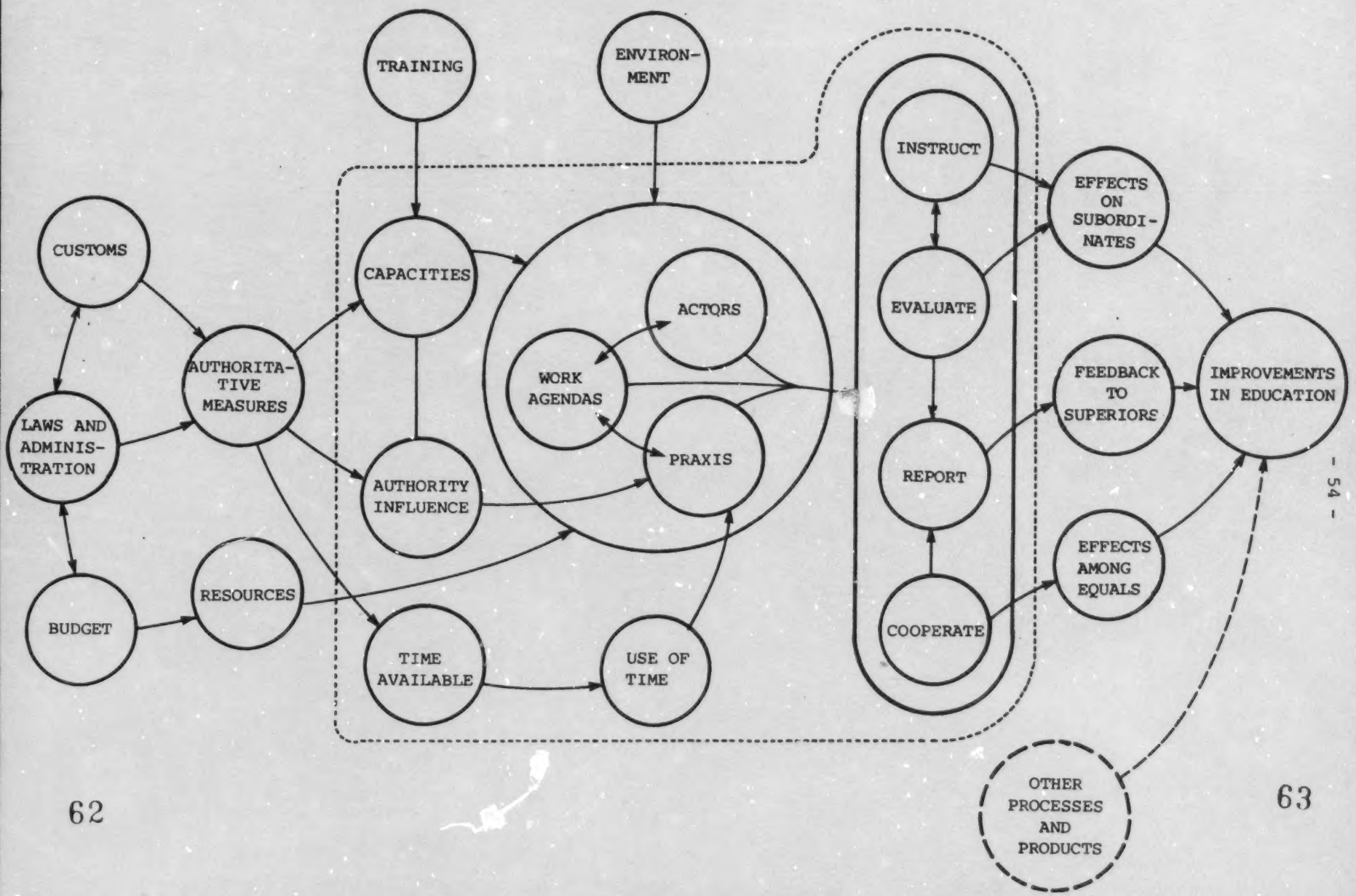
The element summarised as "authoritative measures" sets in motion and continuously feeds the inspection process, stimulating capacities, demanding the exercise of authority and influence and conditioning the amount of time available. Capacities are a function of the elements grouped under the term "training" and where any activities to assist planned change (courses, seminars) are incorporated. In turn, aided by authority and influence, such capacities are demonstrated in the organization of work agendas and in the integration of other "actors", according to the type of "praxis" (fundamentally the style of communication) all within the possibilities and limitations of the physical setting. This complex combination of operational components, symbolised by the larger circle, is where the other relevant input, material and financial resources, exercises a decisive influence. And it is the same combination at the point of exit, which is visibly converted into the actions and operations appropriate to the inspector's role.

These actions have been summarised under four terms; to instruct, evaluate, report and cooperate, covering the more detailed contents given in Diagram 6 (the first included advising, stimulating and correction). There is also frequently an inextricable interaction between these four actions which is why they are placed within a larger circle, but technically from the point of view of the process, their operational centre is "evaluate".

In effect, despite the greater importance, which the evolution of ideas, has attached to instruction and counselling, the most typical and irreplaceable work of the inspector continues to be checking and evaluating in the field as regards the carrying out and results of decisions (which after all could be conveyed by other means); and as a consequence, to encourage or correct, report and suggest. Even cooperation with colleagues, which has only recently been explicitly encouraged, is based on evaluation of what is happening.

The effects or "immediate outputs" of this set of actions are not difficult to state or represent. Information, advice and evaluation have

Diagram 6. The inspector as systemic actor (II) - Inter-relationships of basic elements



a direct effect on subordinates, though here the term covers not only school personnel but also community organizations in contact with education, representatives of state agencies etc., orienting and modifying in some degree their own activities. The action of reporting, also fed by evaluation, constitutes the institutionalised form of feedback for higher centres of decision-making. Finally, "cooperate" (the exchange of opinions, evaluations, suggestions etc. with inspectorate colleagues) has mutual effects among equals, constituting another kind of feedback.

On the other hand, the final product - the desired improvement of education imparted by schools - although easily represented, is extremely difficult to analyse as an inter-related element, because the three major types of immediate outcomes affect the final product in very different ways. The first (effect on subordinates) has supposedly a very direct impact, although in the case of community organizations and other non-school agencies it would also be necessary to consider more negotiated and complex modes. For its part, feedback to superiors contributes to educational improvement only at the most general level: concrete action on the schools implies running through the whole process again. Feedback among equals may either have quite a direct influence by modifying the modes of action of particular inspectors or be limited to the kind of indirect impact mentioned before. Last, but not least, at this end of the process, any effective changes are brought about by the convergence of many other parallel processes, more or less autonomous or interacting with inspection.[1/]

Utilising the model

This deliberately simplified model has a basically heuristic purpose; that is to say it is a scheme for research, to discover relationships, identify critical points, bring to light bottlenecks suggested by experience, and thus help to formulate a body of hypotheses to guide the search.

It is evident that it is a preliminary and broadly designed heuristic device, like a large scale map showing only the most salient features

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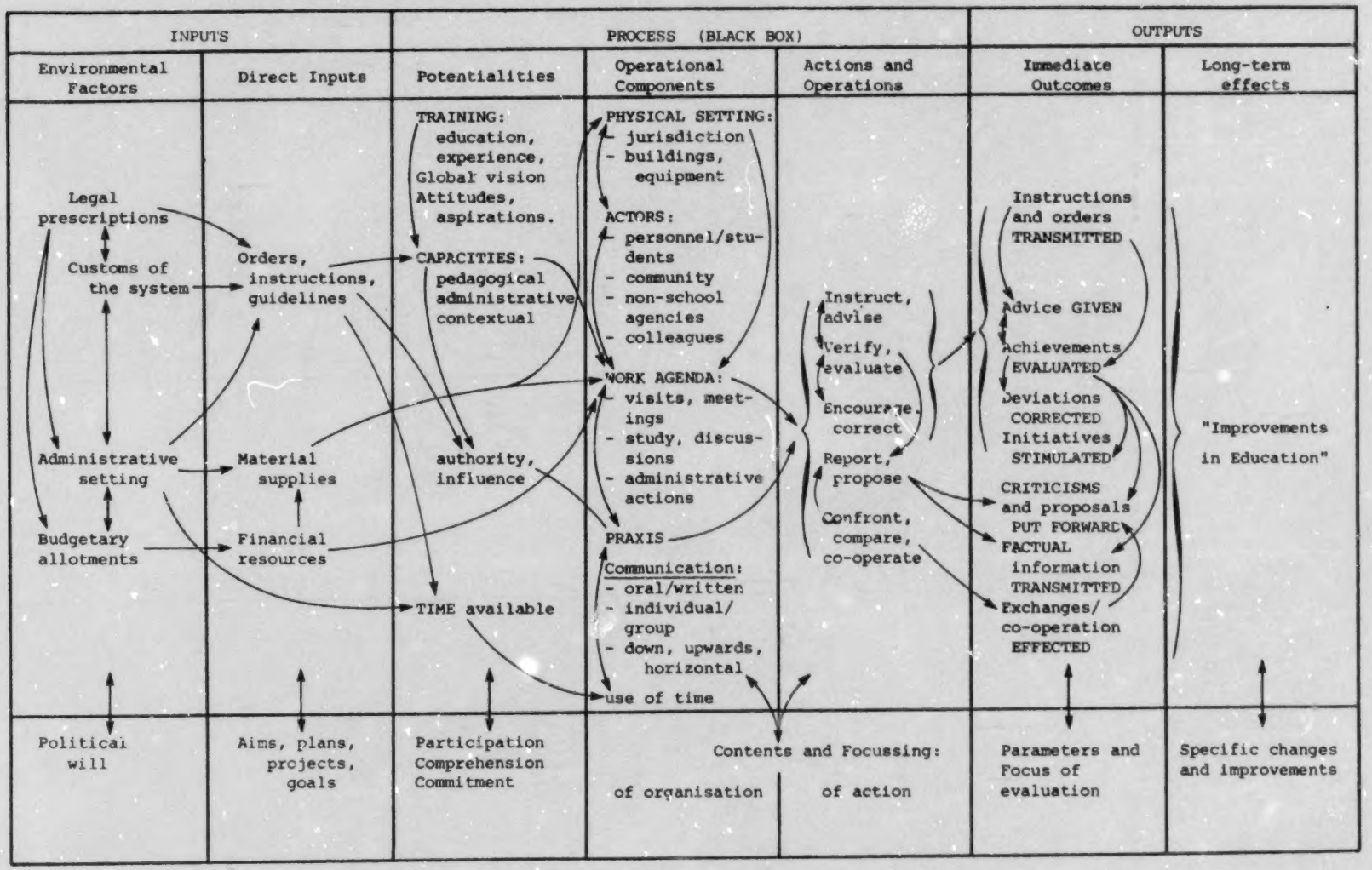
[1/] It may also be observed in Diagram 6 that a dotted line has been drawn around the central elements: this is meant to indicate the boundaries of inspector's system. Thus almost all the elements of the "process" columns are covered (potential, operational components and actions). Only training and the physical setting have been left out because they are in a certain way pre-existing elements to the process, which the latter does not modify to any great extent.

Diagram 7. The inspector as systematic actor (III) - Interrelations between the original elements



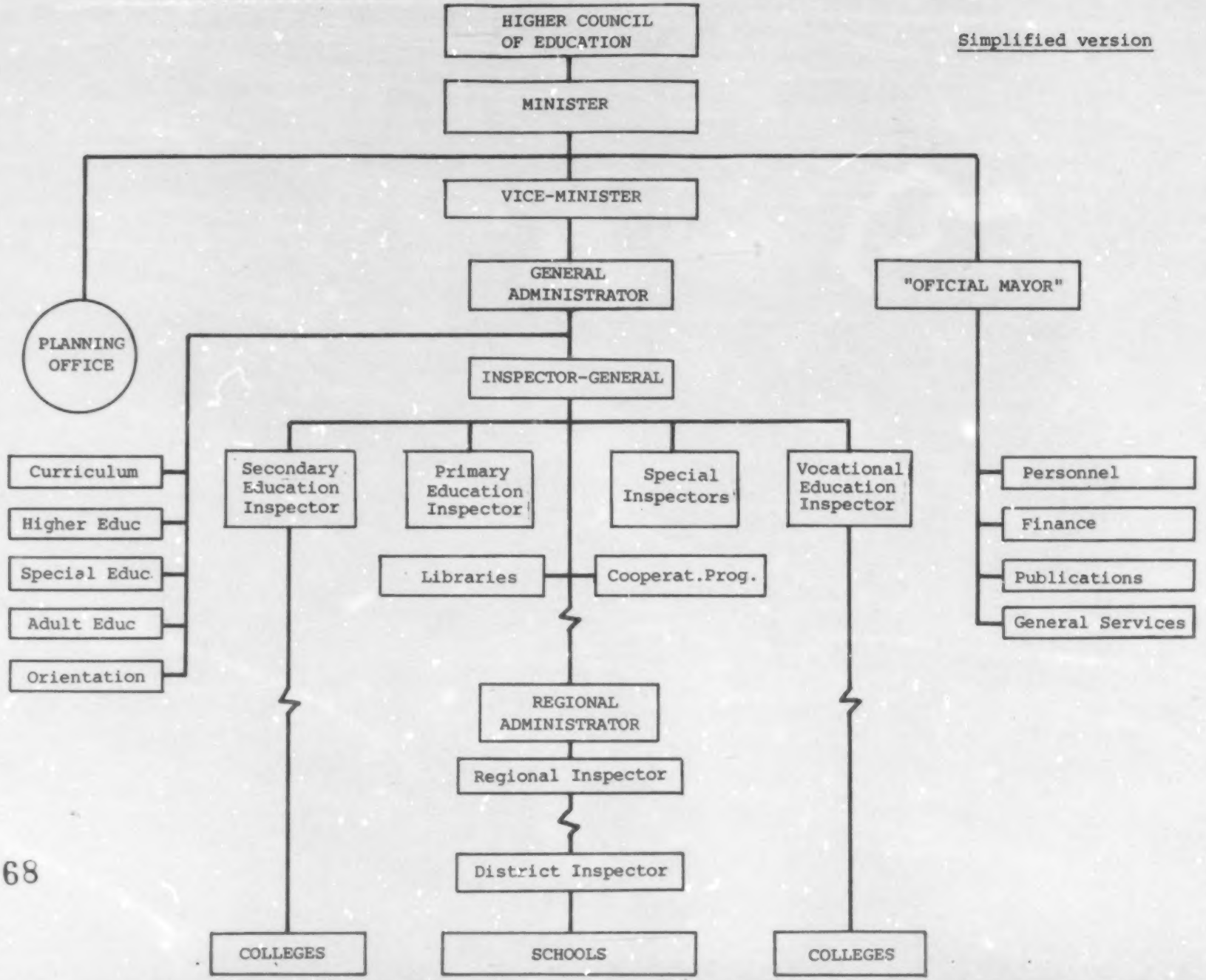
together with their most evident relationships, in order to set the itinerary through the vast country of inspection. The second step would consist of detailed development (examining each part of the map with a lens), focussing on the diverse groups of minor elements with flows of relationships. But this is not necessary for a first, still exploratory investigation. Here it will be enough to resume the level of detail used in the first descriptive framework of all the elements (Diagram 5) and add the flows and relations in a little more detail (in Diagram 7, there are 54 relationships instead of 32). This new medium-scale map, (which it is not necessary to explain after what has been said above) will suffice to pose a manageable group of hypotheses and thus to select the variables needed for our research.

III. THE CONTEXT OF THE RESEARCH

Knowing something of the evolution of the Costa Rican school inspectorate and possessing the theoretical instruments, it is now possible to examine the role of inspectors in the major reforms of the last decade. In 1971 inspectors were placed within an administrative structure which demonstrated little confidence in them and limited their action, particularly those responsible for primary level education. (In Chart 2, note particularly the strict hierarchical chain of command down from the Inspector General, though inspectors also frequently received instructions of which the Inspector General was not informed via other routes, e.g. curriculum, adult education, statistics, planning ...). As to duties and contacts prescribed by the regulations, whereas visits to schools, the fulfilling of norms, maintaining of standards and reporting are regulated in detail, pedagogic requirements are hardly mentioned. The regulations ignore relations with colleagues and mention only monthly meetings convened by the Regional Inspector. Requirements for appointment as an inspector are determined by the Civil Service and rely mainly on "experience" and the personal qualities of candidates to provide the capability to perform the duties and tasks listed. It is these inspectors, who in 1971, were asked to take part in implementing the National Plan of Educational Development - a Plan which envisaged profound change.

The three major aims of the plan were to increase the average level of education of the population, modernise the educational system and maintain at current limits the percentage of the national budget (over 30%) devoted

Chart 2. Ministry of Education - Costa Rica Organigram, 1971



to education. This third aim, which is uncommon in development plans, was due to the conviction that the proportion given to education in the national budget was ample and all that was needed was to make better use of it. The first two aims implied vast and substantive change, and for the first time, various traditionally separate or marginal sectors, like adult education, special education and apprenticeships formed an integral part. Within the panorama of changes, five stand out as significant innovations affecting the inspectorate subsystem in various ways. The most obvious is change in the traditional educational structure (primary, followed by secondary education divided into two cycles and into academic and vocational branches) to general basic education of three cycles of 3 years (all of which were to be compulsory) followed by diversified education to replace secondary, so as to improve the integration of students into a technological world. Educational programmes in the third cycle would be by area, not by subject, and this would reduce the number of teachers a student would need to deal with. All of this implies improvements in the competence of district inspectors.

The second major innovation (a new integrated concept of the curriculum and methodology, and consequently of evaluation and upgrading of backward students)should have had a major impact since the teacher was to become more of an animator and orientor for self-learning. The consequences of this for the advisor/inspector are potentially incalculable.

A third important feature was the rate of growth in education. It was foreseen that primary education, though universal, would diminish in regard to numbers covered because of reduction in the birth rate and by new types of evaluation which would reduce the number of repeaters, whereas the third cycle of basic education and diversified secondary would increase, in particular technical education. Pre-school education was also to be extended from 15 to 50% of the population in the age group. All these aims required a re-orientation of inspectorate activities.

The fourth innovation concerns unification of training and qualifications of educational personnel in accordance with the new orientations, so as to assist implementation of the new structure of education, for example, training of teachers for general basic education and not for primary etc. A new Pedagogic University was envisaged but this was unfortunately changed during the legal process into an entirely new university giving teacher training as before. Lastly, the linking of educational development to

general national development was not given a sufficient basis. It demanded a system and a research and planning institute of a new type, for which international assistance was sought, but finally not obtained.

The Strategy

It was noted above that the principal deficiencies of the educational system were accentuated in rural areas, but on the other hand, the embryonic adult education subsystem offered great possibilities for the institution of rapid and immediate action to assist the productive system. For these reasons, three major strategies were proposed for implementation of the Plan:

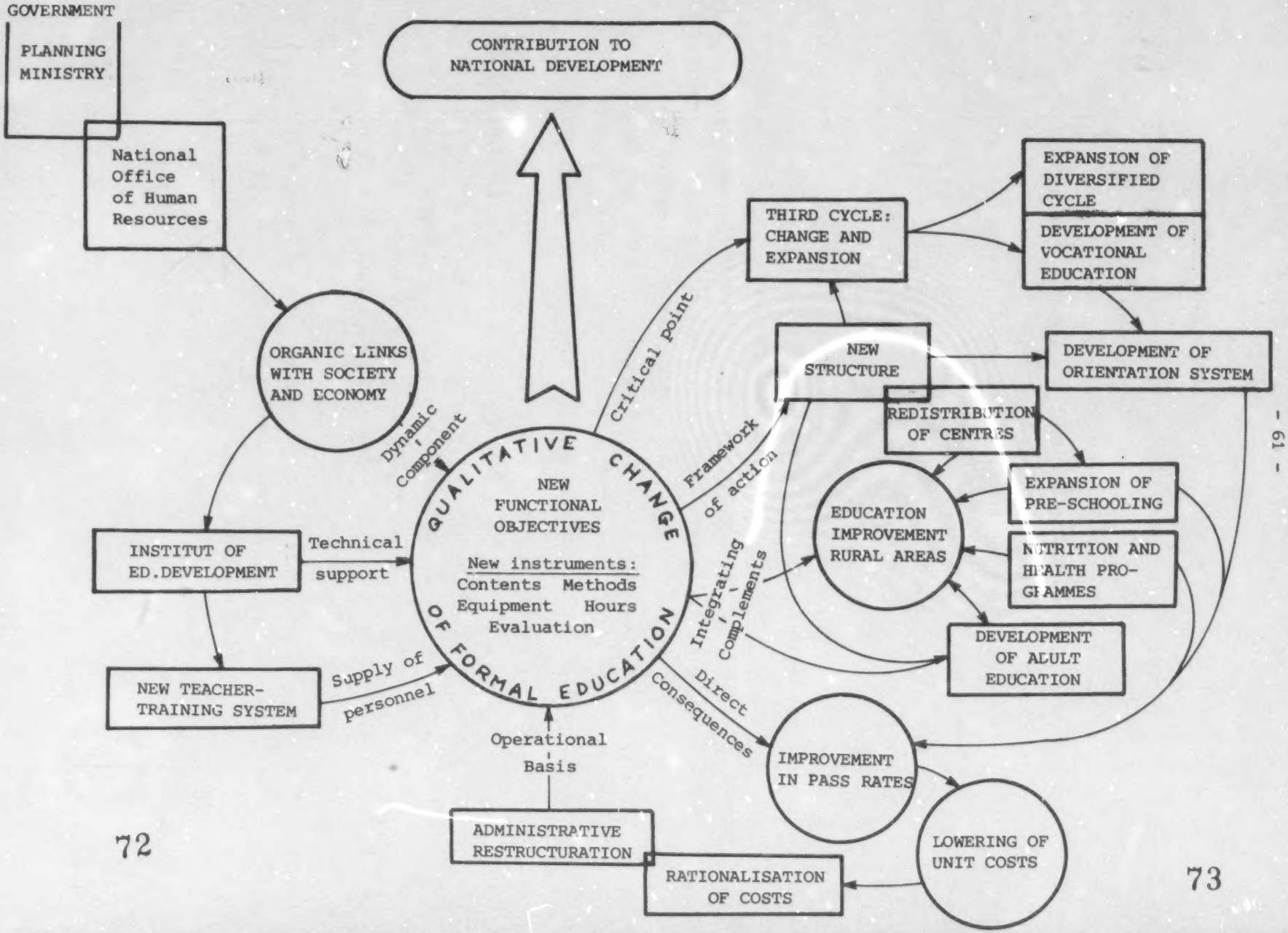
1. Aimed at improving the quality and coverage of rural education;
2. Aimed at adult education with a strong vocational emphasis and using non-formal methods;
3. Aimed at qualitative change in the formal educational system.

It was decided to tackle the third one first since the Ministry had already done much preparatory work for it and the other two were foreseen for subsequent phases of educational development. Each organ of the Ministry, regional offices, inspectors, heads and teachers etc., had to have a clear perception of the place of each programme in the whole, and a scheme was drawn up for this purpose (Diagram No.8). This strategic model reflects a systems-type concept, the basic inputs coming from society in the form of needs, with an internal mechanism for their immediate interpretation in technical-pedagogic terms. The desired final product aimed at was a positive contribution to national development. The major part of this scheme consists of the principal objectives/programmes derived from aims and also some intermediate objectives (those in circles). All are linked with the central objective of in-depth qualitative change - the main programmes of which are marked on the right hand side of the scheme.

Inspectors in the reform process

All personnel of the central offices of the Ministry, particularly those of a technical character, were asked to collaborate immediately. Also numerous staff of the regional and local levels (administrators, inspectors, heads, teachers, university professors, etc.) participated in the 16 Committees which were set up between the end of 1970 and July 1971.

Diagram 8. Strategy of the Educational Development Plan, Costa Rica, 1971



At the same time many other staff worked on plans and programmes for General Basic Education, and a Central Committee coordinated the whole process. Three volumes of preliminary documents were produced and were debated in 16 seminars throughout the country, when representatives of students and parents were given the opportunity to present their views. In December 1971, the Higher Council of Education authorised implementation of the Plan of the following year.

Inspectors participated in this process but not as a specific group; many of them adopted an attitude of marginal participation so that, when at the beginning of 1972, special meetings of heads of primary schools were held to prepare for implementation of the Plan, the majority of inspectors attended as observers rather than taking an active role. In the event, the new teaching programmes were despatched to teachers on time and in sufficient quantity, but the complementary documents (such as rules for evaluation) which should have been distributed by the inspectors, sometimes did not reach their destination. In fact, during the critical period of implementation, advice to teachers was given direct by central Ministry advisors who were sometimes insufficient and not through the inspectors, whose capacities and attitudes were, with some reason, distrusted.

This "ad hoc" organization could not be allowed to continue. Though it had given satisfactory results as regards general mobilisation, the network was too slack and many things were left unattended. Therefore, in 1972, in the second phase of programme elaboration, a broad administrative reform was undertaken as planned, to establish the formal and regular organization of the educational system - in this inspectors occupied a specific place.

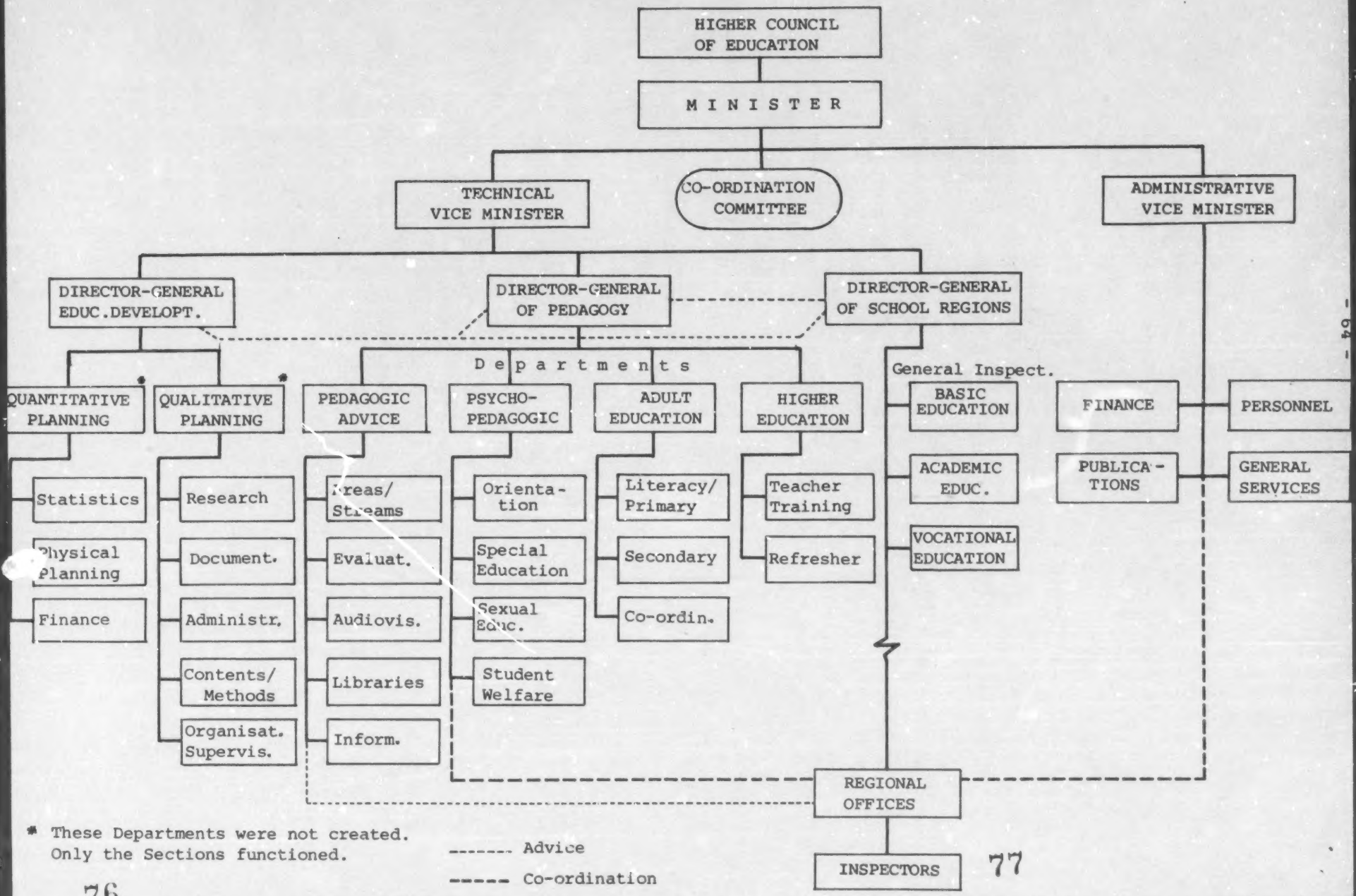
The general orientation of this reform had been indicated in the Plan - the objective was to deconcentrate the system so as to give greater responsibility to the Regional Offices for the unity and coordination of different levels of education in each zone. It was originally foreseen that the reconstruction of administration would start from the bottom upwards to ensure greater freedom of action to the operative levels. But it was immediately realised that reform could not be carried out in this way, because a fluid flow of communication with the field - which was the responsibility of inspectors - was lacking. So a reverse process from top-downwards was adopted and begun with a diagnosis of the Ministry and its

restructuration based on division by function rather than by level of education. Inspectors remained under a simple chain of command which passed through Regional Offices to the Director General of School Regions, assisted by the Inspector General of Basic Education: other structural alterations can be seen in Chart No 3. The most complex problems encountered were those of the role and competency of the inspectorate.

In accordance with the new structure, primary school inspectors were to be converted into advisor-inspectors of general basic education, now including the third cycle, but the latter was offered in colleges or secondary schools for which the previous primary inspectors had no responsibility. Therefore, a redistribution scheme for educational institutions was drawn up in the form of a network containing a certain number of primary schools and third cycle institutions. But in fact only 8 schools giving the complete three cycles of basic education were established - the third cycle being for the most part still given in colleges. Professors of the third cycle (university graduates) did not wish to be thrown together with primary teachers nor to accept inspectors who came from this source. Thus the third cycle of basic education continued to be the responsibility of secondary education inspectors and there was no broadening of the responsibilities of district inspectors.

In addition, in order to give substance to the goal that the role of inspectors should basically be pedagogic and not administrative, it was proposed to group them in teams around the Regional Director, and at the same time, the major part of their administrative responsibilities should pass to a Regional Chief of Administration. Advisor-inspectors, under the coordination of a Technical Chief, would form advisory teams in which each member would specialise in one aspect so that though each would retain a certain responsibility for a district, technical assistance would be given collectively. However, this met the organised resistance of the inspectors themselves who, accustomed to exercising individual authority in a district, feared loss of status with this new proposal. Their Union intervened and after negotiations, there was an almost total return to the original situation: each inspector would continue to be responsible for his district although he would have improved contacts and collaboration with colleagues through frequent meetings at the Regional Office. This was the second aspect of change which did not succeed.

Chart 3. Ministry of Education - Costa Rica Organigram 1972-1974



* These Departments were not created. Only the Sections functioned.

------- Advice

----- Co-ordination

It is not difficult to perceive that these two problems were the consequence of another more serious problem, i.e. the training and capacity of inspectors which were insufficient to allow them completely to understand the Plan or be accepted by professors of the third cycle, nor did it give them confidence to carry out the real role of advisor for curricular and methodological change. Thus in the second half of 1972, it was proposed that a series of intensive courses for inspectors and Regional Directors be organized to last a total of 6 months full time spread over 1972 and 1973. But again the Union demanded that these courses be of the university level type, confer a degree and result in upgrading the category of post and salary. The "Escuela Normal Superior" was not prepared to give these courses, so that training stopped and the previous problems remained unresolved.

To sum up: the inspectors were affected by the Plan in three ways: (a) there was a minor change in the chain of authority; (b) their role as educational counsellors was strongly emphasized; and (c) their jurisdiction was enlarged to the third cycle of basic education (formerly the first cycle of secondary education). These changes, subject as they were to the inspectors' possession of the requisite training and abilities, were expected to enable them to exert a decisive influence on implementation of the Plan at the local level. The almost total failure of these innovations could not but have negative effects on the implementation and assimilation of the desired educational change.

The "Nuclearization" programme

By 1974, at the end of term of the office of the administration which had initiated the Plan, several of its goals had achieved a significant measure of success, although the barriers between primary and secondary schools remained as high as ever and qualitative changes had not gone very deep. The most interesting feature was a much greater participation of teachers, headmasters, inspectors and other educational officers in discussions about the real problems of education. Also, as from 1975, further opportunities of higher education were in ample supply in universities for all the educational corps, and the main issues of the Plan became a major subject of study in these courses.

Thus, though the following Government practically abandoned implementation of the Plan, some of its guidelines for progress survived in various

ways. The most interesting of these was the "nuclearization" programme.[1/]

The essence of this programme was the grouping of small rural schools into nuclei - about six per nucleus - and the pooling of their efforts and resources in order to offer better-quality education, more closely related to local development needs. The programme itself was developed in 1974-75, and in the three following years, it was gradually implemented in four of the sixteen school regions, chosen from among the most "rural" and comprising roughly 20% of the school population and 24% of the inspectorate.

The overwhelming majority of those involved in this programme gave it their enthusiastic support, although the central authorities were negligent in providing them with the extra resources which had been foreseen [2/] However after 1979 yet another new government shifted its priorities and the programme stagnated - without ever being officially terminated.

Our interest stems from the fact that field inspectors were made responsible for the smooth functioning of the four or five nuclei included in each district. Unfortunately their powers and responsibilities were defined in terms of administration only, while the substantial task of improving quality through internal coordination fell exclusively upon the group of headmasters within the nucleus.[3/] Thus, instead of effective cooperation between the two levels, there emerged in fact a sort of rivalry, although in many cases good sense prevailed and the inspector was allowed (and sometimes requested) to take an advisory role beyond his official competency.

The example is quoted since this was a clear instance of a reform consisting essentially of field-level actions, in which the role of the inspectorate lent itself to research and evaluation.

1/ For a larger discussion of this programme see OLIVERA, C.E., "The "nuclearization" programme in Costa Rica"; UNESCO-IIEP, 1979 (Doc.IIEP/S56/8A; 30 pp., tables).

2/ See the exhaustive research by HERNANDEZ, Pablo (Bibliography, III-7).

3/ As stated in the Ministry of Education document, "Nuclearización Educativa" (Bibliography, IV-17).

IV. THE RESEARCH METHODOLOGY

The question which followed was what should be investigated in order to respond to the propositions formulated in the Introduction. The focus of interest is the relation between the inspectorate subsystem and the reform process, and in this respect the research could be conducted in two directions:

- How does the inspectorate subsystem contribute to the process of planned change in the overall system?
- How do these changes affect the inspectorate subsystem itself?

Though both questions are indissolubly linked, there is a decisive difference between them. The first is of primary importance for it concerns how the success of planned reform processes may be achieved and what has been the contribution of the inspectorate to such success. However, this contribution would be practically impossible to isolate for direct analysis and thus, in effect, the second question becomes central because it is possible to obtain practical replies to questions aiming at the analysis of changes in the inspectorate. Thus the research concentrated on the latter.

The reasoning behind this choice can be succintly described as follows. On the one hand, an evaluation of the inspectors' contribution to the global success of a reform cannot be made by any direct approach since such contribution is inextricably associated with many others in any verifiable "improvement in education". On the other hand, through a closely reasoned systemic approach, it is possible clearly to establish, if not the degree, at least the course or direction of the relationship between the observable actions (column 5, Diagram 7), of the inspectorate resulting in "immediate outcomes" (column 6), and the final goals.

Now, in order to identify the course of this relationship and to discern the comparative weight of each type of action in determining such a course, it is not enough to examine these actions at just one point in time; for points of reference would be lacking. That is why it was decided to try and identify the change between the same actions at two different moments, i.e., the Educational Development Plan (1972-1974) and the nuclearization programme (1976-1980).

In short, the research was intended to shed some light on:

- the relationship between the reform processes and the subsystem of inspection,

(taking the latter as the sum total of the individual actions of its members),

on the basis of identifiable changes in the subsystem itself,

between two different moments of reform processes.

With this in view, several points of interest were singled out from amongst the vast field of objectives pursued in each of the two reforms; a number of hypotheses were formulated as to the supervisors' behaviour regarding those points; and a table was prepared of the main variables through which the hypotheses could be put to the test (see Chart 4). The hypotheses are listed in the following section together with the relevant conclusions.

A questionnaire was drawn up to test these hypotheses according to the systemic scheme - immediate inputs, potentialities, operational components, actions, immediate results and long term effects. It was divided into three parts. In the first part, after questions of a personal nature, objective data on the district of the inspector was to be given, followed by more subjective views on the importance attributed to different tasks and on the time devoted to them - in each case attempting to establish the differences between 1972 and 1980. These differences were investigated in the second part, where the objective was to identify any changes produced in modes of work of the inspectorate. Then more precise questions were posed on the administrative conditions prevailing for the implementation of the Plan in relation to each of the themes and objectives selected. An open question was added on changes noted as regards the intention to decentralise. Finally, in the third part, the inspector's evaluation was sought of the advantages of the reform, as well as information on their participation in and commitment to the process.

The survey was carried out in October 1980 with the collaboration of the Ministry of Education: 26 inspectors (25% of the total corps) belonging to the 7 school regions and to 15 of the 22 sub-regions completed the questionnaire. A detailed description of the results of the analysis will not be given here since what is really important is whether they substantiate the hypotheses formulated or not. In the next chapter conclusions will be given for the specific case of Costa Rica and then an attempt will be made to draw up some more general remarks which though based on this study, may help in guiding future work in other countries.

Chart No 4 THE RELEVANT VARIABLES

SYSTEMS COMPONENTS	POINTS OF INTEREST (in both reform processes)	RELEVANT VARIABLES
Direct Inputs	Goals of Plan: changes in: -curriculum -methodolody -evaluation -upgrading of backward students Goals of Nuclearization: -teachers' teams -pooling of resources -adaptation of curriculum and methods -community participation	Information: amount, quality Supplies; financial resources Guidance and support from Regional Directors
Potentialities	Training - Ability Authority - Influence Attitude towards reforms	Age - Seniority Degrees - Updating -Recycling Source of appointment Teaching/administrative experience Previous participation; understanding, support
Operational components	Physical setting; Actors Work agenda; praxis; use of time	Inspector's district: numbers, organization, degree of rurality Priorities (administr/ pedagogic) time allocation Work plan: drafting, sanctioning, control
Actions and operations	Individual (each inspector in his district) Collective (at the Regional level)	Commitment to reform Carrying out of work plan; observance of priorities (Evaluation by superiors) Team work in the Region; organization, effectiveness
Immediate outcomes	Pedagogic outcomes (renewal) Administrative outcomes (decentralization initiative)	Contribution to attainments by: .coordination .counselling .animation .linking of levels .feedback .personal initiative Effects of decentralization Effects of evaluation from higher levels
Long-range effects	Assimilation of changes	Attainment of reform goals in the district
TOTALITY	Contribution to reform effectiveness	Changes in the inspector and in the inspection system

N.B. - In the original paper, this Chart is preceded by 12 pages of discussion

V. CONCLUSIONS OBTAINED

A. SPECIFIC HYPOTHESES AND CONCLUSIONS[1/]

1. During both periods of reform, inspectors received more and better inputs of information than of supplies or other resources. But not all this information was correctly transmitted to the schools.

- The first part of the hypothesis was amply demonstrated. As to the second, the inspectors gave positive views on their own role whereas the central authorities (in personal interviews) considered inspectors more as obstacles to such transmission.

2. In the nuclearization programme, the pooling of resources within each nucleus was almost nullified by the scarcity of new material and financial resources which should have been provided by the Ministry.

- This scarcity is amply ratified by the inspectors. Nevertheless they think that such resources as existed were in fact shared. An independent research (see Bibliography, III-7) reached the same conclusion.

3. The capabilities of inspectors were insufficient for them to handle the substantial inputs (information on in-depth changes in contents and methods), particularly due to ignorance of their relationship with the socio-economic context.

- This was confirmed by an examination of training received prior to the Plan. Lack of sociological and economic training was revealed by the omission of any mention of such considerations (e.g. in criteria for the elaboration of work plans) and also by the insecurity shown as regards anything concerning participation of the community.

4. The attitude with which inspectors received instructions for change was initially mistrustful, through lack of prior participation and understanding; but it improved over time as they received complementary information.

- This attitude was revealed in the low rating awarded to the amount and quality of information received on the Plan, which was really very ample and detailed. Low level of participation in planning was verified. Improvement between the two stages was shown in the high rating later awarded to the Plan, and progress in training is shown by data on qualifications.

5. Inspectors as a whole did not commit themselves fully to implementation of the Plan, but this improved significantly in the case of nuclearization.

[1/] In the original paper, this chapter is preceded by detailed analysis of the results of the survey (33pp, 12 tables). The conclusions which follow are based on that analysis.

- The difference in degree of commitment between the two stages was shown by the self-evaluation of activities undertaken during the reforms. Low commitment in the first stage can be partially inferred from the low rating given to administrative conditions for success (arrival of information on time, clear and precise instructions, support from the Regional Office, timely supply of books and materials, and so on) which in fact were far better than in the case of nuclearization, but were received rather sceptically.

6. Differences in age and seniority of inspectors were not significant as regards their behaviour in any period of the reforms.

- It was not possible to establish any correlation between these factors in the period of the Educational Development Plan. In the later phase of nuclearization the behaviour of younger inspectors was noticeably more positive.

7. Differences in size of districts, their degree of rurality, etc., were not significant either.

- The size of districts could not be related to the inspectors' performance. But the extent of rurality showed a high positive correlation with opinions on the worth and the achievements of the reforms.

8. The relative importance attributed by inspectors to the four programmes of the Plan here considered would be as follows:

a. Study programmes
b. Evaluation
c. Methodological changes
d. Upgrading of backward students

- The evaluation made by inspectors coincided with this order as regards achievements of the reform. However, in the questions concerning administrative conditions for success, the order of the first two was reversed and the last two were placed equal.

9. The relative importance awarded by inspectors to the four goals singled out in the nuclearization programme would be as follows:

a. Subject of teachers' theses
b. Adaptation of contents and methods
c. Sharing of resources within the nucleus
d. Community participation

- The inspectors' view was rather similar to this ordering; as regards achievements, they inverted the two middle goals, and as to conditions of success, the first two were inverted.

10. This order of importance corresponds approximately to the amount and precision of information received, and with the capacity of the inspectors to understand it - the latter being determined by previous training.

- The order of our list coincided only partially with the views of the inspectors as regards information received for the Plan, but almost completely in the case of nuclearization. Their previous training as teachers led one to expect approximately the same order, and especially the weakness shown in regard to upgrading of backward students and community participation.

11. Inspectors used to do little systematic, regular planning of their work; during reforms there was an improvement in both aspects, and their plans showed more attention to pedagogic aspects; but a disproportionate weight was always accorded to bureaucratic routine.

- Data given by the inspectors clearly confirmed the first part of the hypothesis: the proportion of them drawing up regular plans increased from 56 to 88% between the two dates. An increase in attention to pedagogic aspects could also be inferred from the priority attributed to different tasks, the criteria used for planning and some modifications pointed out about the general functioning of the system. The continuation of a strong bureaucratic component is also visible.

12. The amount of decentralization foreseen in the Plan was in the event more apparent than real: administratively, because Ministry departments never delegated real authority; pedagogically, because the advisor-inspectors did not know how to explore or use any delegated authority.

- Opinions were largely negative on the effectiveness of decentralization and agreed with the reasons for it. Lack of initiative in making use of the freedom allowed was mentioned by high level staff, but was also revealed in the low number of replies to the open question concerning individual initiatives.

13. Team work at the Regional Office level was almost nil at the beginning of the Plan, due to fear of loss of personal authority. In the subsequent years it improved in quantity and quality but was always secondary to each inspector's individual work.

- Initial lack of team work was indirectly reflected in the fact that no one mentioned it as an organizational component or as a priority task. Its subsequent increase is shown by the high rating awarded to it as a condition for success, in the role assigned to consultation and approval of work plans, and by its being pointed out as an important systemic change.

14. As to results achieved by the selected programmes of the Plan, changes in curricula succeeded well and evaluation rather well as regards its formal aspects; but achievements in the fields of teaching methodology and the upgrading of weak students were much lower than planned.

- This hypotheses entirely coincided with opinions given on achievements, particularly according to those inspectors who were in office throughout the period. Those who were only heads of schools at that time gave a better rating to teaching methods and upgrading of weak students.

15. As to achievement of the goals of nuclearization, considerable cooperation among teachers was obtained, as were some adaptations of contents and methods, but little was gained as regards community participation, and almost nothing as to the sharing of new resources.

- The inspectors also awarded first place to team work, but their rating for sharing of resources (though not new resources) was higher than in the case of contents and methods. Community participation was ranked lowest.

16. Changes achieved did not owe much to inspectors, but more (in the case of the Plan) to direct communication of the Ministry with parents, teachers and students, and (in the case of nuclearization) to headmasters' and teachers' initiative.

- As concerns the Plan, the hypothesis was sustained by the opinions of high level staff consulted, whereas inspectors assigned a major influence to themselves. As for nuclearization, there are wide discrepancies, although the hypothesis seems to agree with the opinions on the good level of teamwork and on the teachers' role in annual planning.

17. Throughout the reform periods much better communication and a greater degree of collective work was obtained between the different levels of the staff of the education system, particularly in rural and semi-rural areas.

- This hypothesis was amply confirmed by the opinions given by inspectors on many of the questions. The second part was also confirmed by

the positive differences noted in the nuclearization programme, which took place mainly in rural areas.

B. GENERAL REMARKS

It will be useful to draw from a particular case, with the help of the analytical model, certain lessons which could in the future help integrate the inspectorate system -- at least as it is usually found in Latin America -- in processes of planned educational change.

Most of these conclusions, and the most relevant, do not however refer directly to situations of change and reform. As stated before, and as the Costa Rican experience confirms, it cannot be expected that the inspectorate, faced with an educational development plan, will adopt a radically different behaviour to its normal mode of work. It is thus the system itself, and not the situation of change, which primarily claims attention. If it works properly in an ordinary situation (which is not one of stagnation, but of moderate, partial change), it will be able to respond to new directives which might otherwise overwhelm it in periods of rapid innovation. For this reason, the following conclusions will not differentiate between the two kinds of situation; although, at the end, a few will be added which directly concern periods of rapid change. The points are listed in the order suggested by the systemic model.

B.1 As regards inputs:

a) The principal input of the inspectorate system is information (precise, rational, timely), on guidelines for the management of the whole educational system, which the inspectors, as global representatives of the Ministry in the field, are charged with implementing.

b) Only a continuous flow of information of this type can engender a positive attitude on the part of inspectors to ensure the effectiveness of their actions: i.e. an attitude based on an understanding of the goals and strategies, and on a commitment to the means chosen for their achievement.

c) The best way to ensure from the very beginning such information, understanding and commitment, is to organically integrate this corps of staff as participants in the prior planning phases. This is no mere strategic move, but is technically the best means of making use of their experience of daily contact with the realities of educational institutions.

d) Material and financial inputs, although secondary from a theoretical perspective, should also be provided in amounts adequate for the aims pursued and actions expected from inspectors; otherwise the latter may be rendered impotent and become sceptical. The basic resources are those of communications and transport, secretarial services, and the availability of a minimum of funds to meet urgent and unforeseen needs.

B.2 As regards the global concept of inspection:

a) The official concept of school inspection, resulting from successive additions to the original "government watchdog" role, is a survival from the past and a primary obstacle to the efficient performance of the inspectorate in any situation. It should be revised in the light of a systems approach, analyzing and regrouping all the intermediary functions required by the educational system between the central authorities and individual schools, in consonance with present-day views of education as a guide and help to self-development and not as the authoritarian transmission of pre-established knowledge.

b) This systemic-functional analysis clearly indicates that the essential nature of this intermediary role is one of advisor and not of superintendant or "watchdog", and that a final decision should be taken in this regard. Consequently, a distinction should be made between pedagogic advisors and administrative inspectors: the former to be active in school districts, while the latter, in lesser numbers, could act at the regional or sub-regional level. In this respect, the Costa Rican experience of regional administrative units should be studied and completed.

c) The concept of inspectors as officers isolated in their districts, having vertical links only, without any operative contact with their colleagues, ignores present reality, although it lies behind all current laws and regulations. In the very definition of the nature, duties and powers of the inspectorate, a prominent place should be assigned to the cooperative character of this function and to the "team" dimension of much of the daily work, at least at regional level.

d) It follows from all this that legal definitions and rules for inspection, at least in Costa Rica, are for the most part old and out-of-date. There is no point in "revising" them: they should be scrapped and entirely re-written according to the integrated systemic concept.

B.3 As regards the potentialities of the inspector as actor in the system:

a) Teacher training, which is still the only formal requirement, is not sufficient (if it ever was) to provide the inspector with the basic capabilities to understand and intelligently support a broad educational policy. Nor is it sufficient, even when buttressed by a certain experience, to carry out the role of technical advisor in times of major change. Furthermore, the supplementary in-service training sometimes offered cannot usually provide more than a veneer of knowledge, and is equally inadequate for an intermediary function of such a wide scope.

b) It is thus indispensable to give a full training to anyone who is to act as pedagogic advisor, before he or she takes up his/her duties. Such training should be based on experience at higher educational level, and be directed to opening the mind to aspects above and beyond those of school practice. It is not a question of training a sociologist or an economist, but an educational animator capable of leadership in an essential sub-system of the global social system-conscious of its links with the latter, and able to make good use of them from his position within the educational organization.

c) This initial training, as the above remarks suggest, should be based on two axes. The first is familiarity with the socio-economic context of the country, linked to the concrete possibilities and limitations of formal school education. Secondly, as a basic instrumental concept, the spirit and the techniques for group work, for work with colleagues at the regional or national level and to promote and advise on their use among heads and teachers.

B.4 As to organization of work ("agendas").

a) The annual plan of work is in principle the instrument used by each inspector to concretely combine all the operational components (physical, human, material and procedural) which are at his disposal to carry out his mission.

b) However, at least in the case studied, the inspector lacks guidance and definite instructions, as well as technical preparation, to do this complex planning. Consequently actual planning is not based on common criteria, nor does it make use of accepted mechanisms of consultation, approval and control. As a consequence, sometimes no annual plan is drawn up, and in the remaining cases, plans lack consistency, are only partially

fulfilled and are rarely evaluated.

c) According to the data collected, the lack of or weakness in formal planning is to a certain degree being increasingly compensated for by inter-communication and group work among inspectors of the region working together with their Regional Director. This practice has sprung up in Costa Rica during the last decade; it reveals a very positive trend leaving behind the individualistic boundaries still embodied in current legal documents.

d) It is thus necessary for the effectiveness of inspection, particularly in the realm of pedagogic advice, that well-defined guidelines and procedures should be drawn up for the annual planning of inspection work at both district and regional levels, in agreement with the definitions proposed in paragraph 2.2.

e) Such guidelines should be based on the articulation of levels of action, so that each working group is constituted of the operatives of one level and their respective immediate superiors; the latter would in turn form a group at the next highest level, and so on (teachers/head, heads/inspector; inspectors/Regional Director, etc.)

f) In each working group thus formed, individual plans would be coordinated and successively consolidated in plans at higher levels. The same groups would be responsible for supporting, following up and evaluating their execution - though still subject to the necessarily less frequent intervention of higher authorities.

B.5 As regards the <u>actions and operations</u> of the inspector:

a) There exist among inspectors very divergent views on the relative importance of each of the types of work which make up their mission. This, however, could be corrected as far as necessary (because many variations are justified by the diversity of local circumstances) by the procedures suggested in 2.4.

b) The common denominator of all the basic actions of inspection, as identified in the systemic scheme, is information and its flow. In this domain, there are neither rules nor common guidelines for organizing the collection of information (e.g. guidelines for visits to schools), for evaluation (parameters of national or local plans, programmes and projects) or for efficient transmission (guidelines for preparing and analyzing reports).

c) Therefore, with the help of the inspectors themselves, practical documents should be drawn up to meet these needs, always keeping in mind the cooperative nature of the work and the organizational structure by levels of action.

B.6 As regards the products or results, either immediate or long-term:

a) It should be noted, as a conclusion, that what has been said in the above two sections (2.4 and 2.5) is equally valid from the viewpoint of observable results of the inspectorate's activities: that is, that the outcomes suffer from the same deficiencies of precision, organization and utilization, and the corrections suggested would be equally beneficial from this angle.

b) A specific deficiency, more clearly identified over the medium and long-term (in reform situations, the implementation and assimilation of change) is the lack of systematic feedback to decision-making centres, who are then ignorant of what has happened or is happening in respect of planned changes, or only know about them in a general way, without precise information or analysis of interaction -- and therefore cannot take the relevant corrective or stimulatory measures in time.

c) The research shows that at least normal feedback (included under "administrative links" in the questionnaire) does not occupy inspectors very much, nor is it apparently demanded by their superiors. This grave deficiency (which is also an information problem) does not require the setting up of any special organization: it could be corrected through a type of work organization based on the concept of levels of action, together with the previously mentioned technical guides and procedures.

B.7 Special conclusions referring to situations of planned change.

a) According to Costa Rican experience (obtained from those areas where nuclearization was instituted) it appears that reforms tend to elicit more consensus and dedication when they are carried out within a limited area, than when they are implemented all at once throughout the country. Moreover, substantial changes directly affecting the quality of education and upsetting established habits, are more welcome in rural areas, probably because here they counteract more unfavourable situations. This seems to point to the advisability of implementing plans gradually, starting in restricted, mainly rural areas, provided that political will continues to back the changes instead of halting their expansion as happened in Costa Rica with the nuclearization drive.

b) Noting the limitations of our sample, there seems to be a more favourable disposition towards accepting and carrying out changes among the junior inspectors. On average, they have had better training, draw up annual plans, tend to take a better view of administrative conditions for success, concentrate more on pedagogical aspects and are more disposed to carry out an annual evaluation. It would be advisable to take this personal feature into account when selecting areas to initiate change.

c) Various clues scattered throughout the replies to the questionnaire point to a serious fault in reform implementation: advisor-inspectors lack advice from their superiors, or at least feel this to be so. Some openly said that a certain programme "was completed with great success, but the Ministry did not contribute at all". This opinion was far from unanimous, but called attention to the need for inspectors to be in their turn advised and supervised in a continuous way: initial information, however ample and detailed, is not sufficient, if afterwards they are left to their own devices. Regular inputs of information and technical assistance must be foreseen and effectively provided to support initial favourable attitudes.

On concluding this paper, it is obvious that the research suffers from certain inevitable limitations on each of its three constituent axes. In the historical dimension, though there is an abundance of sources as regards Costa Rican education in general, it was extremely difficult to gather exact and reliable data on inspection. In the field of education; historians concentrate all their attention on educational policies and the attendant public debates, whereas pedagogues only analyse the evolution of educational theories and practices: no one remembers the intermediary functions except by accident. In the theoretical dimension, the lack of in-depth studies on the concept and the role of the inspection system as understood in Latin America have been pointed out: this is the reason for constructing a theory based on the systemic approach as used in Social Cybernetics, but it remains to be tested and fully completed. And as to the field research, this was limited by the time and resources available which led to concentrating principally on a survey with an indirect approach,

so as to be able to pose questions of a delicate, personal and (by the usual scientific techniques) practically unverifiable character.

However, it is believed that the general lines of the work remain sufficiently clear and instructive. School inspection in the Latin American environment, both as an organizational mechanism and as a group of staff, has been largely ignored and has never really received the attention it warrants as an indispensable instrument of educational policy. The technical and academic preparation of inspectors has been neglected; regulations have become sadly obsolete; while inspectors have been given responsibility for vastly increased tasks which, due to the above-mentioned factors, they are not able to perform efficiently.

Notwithstanding all these problems, it is felt that the foregoing pages have shown some of the directions that a policy for the inspectorate should take if it is to become the effective tool required by the major changes that are in store for Latin American education.

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